

**Rico Surface Water Sampling
Supplemental Surface Water Quality Monitoring
Rico, Colorado
Data Summary Report**

**Prepared for:
Atlantic Richfield Company
4 Centerpointe Drive
La Palma, CA 90623**

Prepared by:



**977 West 2100 South
Salt Lake City, UT 84119
(801) 972-6222**

January 2012

Table of Contents

1.0	Introduction	2
2.0	Field Sampling	2
2.1	Sampling Frequency	2
2.2	Water Quality and Flow Measurement Sampling Locations	2
2.3	Sampling Station Descriptions.....	3
3.0	Sampling and Analysis Parameters and Methods	4
4.0	Flow Measurement Methods	7
5.0	Analytical Results.....	9
6.0	Quality Control	9
6.1	Field QC.....	9
6.2	Laboratory QC	11

List of Figures

Figure 1	St. Louis Ponds Sampling Locations
Figure 1a	Sampling Locations South of Rico
Figure 2	Locations of Monitoring Wells
Figure 3	Dolores River Cross Section at Sampling Station DR-1
Figure 4	Pond 8 Embankment Cross Section at Sampling Station DR-5
Figure 5	Dolores River Cross Section at Sampling Station DR-2
Figure 6	Dolores River Cross Section at Sampling Station DR-7
Figure 7	Dolores River Cross Section at Sampling Station DR-4-SW
Figure 8	Dolores River Cross Section at Sampling Station DR-G

List of Tables

Table 1	Sampling Location Summary
Table 2	Analytical Procedures Summary
Table 3	Sampling Field Data and Station Information Summary
Table 4	Analytical Sampling Results Summary
Table 4a	Analytical Sampling Results Summary – Monitoring Wells
Table 5	Duplicate of DR-3, Relative Percent Difference (RPD)

List of Appendices

Appendix A	Sampling Location Maps
Appendix B	Data Tables
Appendix C	Project Narrative and Laboratory Analytical Reports
Appendix D	Laboratory QC Results
Appendix E	Flow Cross Sections
Appendix F	Chain of Custody Records
Appendix G	Field Photos
Appendix H	Field Log Book Records
Appendix I	North Flume OTT PLS Transducer Data with Flowrates
Appendix J	South Flume Orpheus Mini Data with Flowrates

Rico, Colorado
Surface Water Sampling Report
January 2012 Sampling Event

1.0 Introduction

In accordance with the Rico Sampling and Analysis Plan for Supplemental Surface Water Quality Monitoring at Rico, CO prepared by AECOM, dated November 2010, the surface water sampling event was completed on January 17th – 18th, 2012. Sampling was completed by Anderson Engineering Co. Inc., by technicians who are familiar with the Rico sites and the BP Control of Work Management System. Surface water samples were collected from prescribed locations within the St. Louis settling pond system and at the system discharge (DR-6) to the Dolores River (collectively referred to as the St. Louis pond system), and previously sampled locations along the Dolores River above, at and below the St. Louis pond system. Figure 1 and Figure 1a (see Appendix A) illustrate the location of the various sampling stations along the Dolores River and in the St. Louis pond system. Figure 2 in Appendix A illustrates the locations of the twelve monitoring wells being sampled. Sample results are summarized and laboratory analytical results are attached with quality control documentation.

2.0 Field Sampling

2.1 Sampling Frequency

The sampling period represented by this sampling event is for the month of January of 2012. Sampling will be performed on a monthly basis until at least April of 2012.

2.2 Water Quality and Flow Measurement Sampling Locations

Surface water samples were collected from the locations described on Table 1 and shown on Figure 1 and Figure 1a in Appendix A. In the fall of 2011, twelve (12) new monitoring wells were drilled in the vicinity of the recently constructed solids drying cells. Beginning November 2011, those wells were sampled and will continue to be sampled monthly along with the other sampling locations mentioned. Figure 2 in Appendix A illustrates the locations of these wells, and they are described in Table 1.

The Dolores River was sampled above the St. Louis pond system, and below the adit outfalls downstream of the reclaimed Silver Swan Mine area. The river was also sampled at the USGS gaging station downstream of the Silver Swan site.

TABLE 1 - Sample Location Summary

SITE ID	SITE DESCRIPTION
DR-4-SW	Dolores River below Silver Swan
DR-1	Dolores River above St. Louis settling pond system
DR-2	Dolores River immediately above the St. Louis settling pond system outfall
DR-3	St. Louis tunnel discharge at adit

DR-4	Discharge of Pond 15
DR-5	Discharge of Pond 8
DR-6	St. Louis settling pond system outfall to the Dolores River
DR-7	Dolores River below St. Louis settling pond system outfall
DR-G	Dolores River at USGS gaging station #09165000
MW-1 Shallow MW-1 Deep	Both wells are located about 4 feet apart on the western embankment of Pond 13 at the division between Pond 11 and Pond 12.
MW-2 Shallow MW-2 Deep	Both wells are located about 4 feet apart on the western flood embankment of Pond 12, about mid-way along the pond.
MW-3 Shallow MW-3 Deep	Both wells are located about 4 feet apart on the western flood embankment of Pond 15, on the southern half of the embankment.
MW-4 Shallow MW-4 Deep	Both wells are located about 4 feet apart on the southern embankment of Pond 13, approximately 60 west of the main east access road.
MW-5 Shallow MW-5 Deep	Both wells are located about 4 feet apart on the western dike of drying cell 3 (refer to Figure 2).
MW-6 Shallow MW-6 Deep	Both wells are located about 4 feet apart on northern embankment of Pond 13, approximately 75 feet west of the main east access road

2.3 Sampling Station Descriptions

The sampling requirements and stations are described in detail below, as well as the conditions at each station for this sampling period:

DR-1. Dolores River above St. Louis settling ponds system. The sampling/flow measurement location is on the Dolores River approximately 50 feet upstream of the Rico Ranger Station. Flow measurements could not be obtained due to excessive ice built up in the river.

DR-2. Dolores River immediately above the St. Louis settling pond system outfall. Sampling/flow measurement location is on the Dolores just above the 002 discharge outfall, and upstream of the hot tub discharge. The site is located directly adjacent to the thermal discharge which supplies the hot tub. Flow measurement was collected by flowmeter.

DR-3. St. Louis tunnel discharge at adit entrance. Sampling location is at the inlet of the flume, just before the throat. Flow measurement by an installed 9" flume and water level measurement devices at the sampling location.

DR-4. Discharge of Pond 15. Flow measurement impaired by ice buildup. Flows estimated from ponds system inflow and outflow.

DR-5. Discharge of Pond 8. Flow measurement determined impaired by ice buildup in spillway. Flows estimated by water balance and water level reading.

DR-6. St. Louis settling ponds system outfall to the Dolores River (Outfall 002). Flow measurement by installed 9" flume.

DR-7. Dolores River below St. Louis settling ponds system outfall. Sampling/flow measurement location is located just off the entrance road to the St. Louis ponds site where the Dolores River is adjacent to the entrance road. The site is located approximately 75 feet downstream from a large bend in the river that first brings the Dolores adjacent to the entrance road. Flow measurements were collected by flowmeter.

DR-4-SW. Dolores River below Silver Swan. Sampling/flow measurement location is on the Dolores River below the Silver Swan site just downstream of a bend in the river and below a cemetery on the east bank. Flow measurements could not be obtained due to excessive ice built up in the river.

DR-G. Located at the USGS gauging station #09165000. Flow measurements could not be obtained due to excessive ice built up in the river.

Monitoring Wells. All monitoring wells were sampled by use of a bailer, and field measurements were taken at the time of sampling. Depth measurements were also taken at this time. For January 2012, MW-2 Shallow and MW-3 Shallow were dry.

3.0 Sampling and Analysis Parameters and Methods

All samples were collected as grab samples. Samples were collected from well-mixed locations, which are representative of conditions within the flow stream. Lab-certified plastic bottles were used to collect sample water for analyses. Clean hands, dirty hands procedures were followed throughout the sampling. For quality control purposes, one duplicate sample and one field blank were included with the water samples being submitted to the laboratory for analysis.

Lab-certified plastic bottles were used to collect all water samples. Sample water was first collected in clean plastic jugs, and within 10 minutes, placed in the sampling bottles. A 950 mL HDPE bottle was used to collect a sample for alkalinity, TDS, TSS, and sulfate analyses. A 250 mL HDPE bottle was used to collect a sample for salinity analysis. Sample water for dissolved metals analysis and potentially dissolved metals analysis was filtered through a 0.45 μm filter into a 250 mL sample bottle containing nitric acid preservative. Sample water for total recoverable metals analysis and water hardness was collected without filtration in a 250 mL HDPE sample bottle containing nitric acid preservative. Sample water for cyanide analysis was collected without filtration into a 250 mL HDPE sample bottle containing sodium hydroxide preservative.

Field parameters were measured at the time of sample collection. Field measurement data for pH, temperature, conductivity, and dissolved oxygen were recorded using an EXTECH Instruments DO610 ExStik II DO/pH/Conductivity kit, and results were logged in the field log book. The field instrument was calibrated prior to use with equipment calibration and maintenance standard solutions and consistent with manufacturer's instructions. Weather parameters including temperature and precipitation were obtained and documented in the Journey Assessment.

All sample bottles were labeled to identify sample number, date and time of collection, type of analysis, and appropriate preservative. In addition, sample analysis/chain of custody forms were completed and processed at the time of sample collection. Original chain of custody forms are signed, dated, and placed in the sample container prior to sealing the container for shipment.

Water samples were kept in cooled containers and sent to the analytical laboratory. Samples were submitted to Pace Analytical Laboratories in Lenexa, Kansas for analysis by analytical procedures listed on Table 2. Analysis was performed according to methods specified in 40 CFR, Part 136 or other methods approved by the EPA. Laboratory methods and reporting limits for all parameters are presented in Table 2. Laboratory results and supporting documentation including quality assurance results are contained in the Appendix C and Appendix D of this report. Results are also summarized in Table 4 and Table 4a in Appendix B of this report.

TABLE 2 - Analytical Procedures Summary

Parameter	Detection Limit (MDL)	Method
Field Parameters		
pH (s.u.)	+/- 0.01 pH	EPA 150.2
Temperature (°C)	+/- 1°C	Standard Method 2550
Conductivity ($\mu\text{mhos}/\text{cm}$)	+/- 2% Full Scale	EPA 120.1
Dissolved Oxygen	+/- 2% Full Scale	SM 4500-OG
Non-Metals		
Alkalinity (mg/L as CaCO_3)	RL – 20 mg/L	EPA 310.1
Hardness (mg/L as CaCO_3)	RL – 0.5 mg/L	SM 2340 B
Total Dissolved Solids (mg/L as TDS)	RL – 5.0 mg/L	SM 2540C
Total Suspended Solids (mg/L as TSS)	RL – 5.0 mg/L	SM 2540D
Cyanide ($\mu\text{g}/\text{L}$ as CN)	RL – 0.005 mg/L	EPA 335.4
Salinity	RL – 6 mg/L	SM 2510B (calculated)
Sulfate (mg/L as SO_4)	RL – 1 mg/L	EPA 300.0
Total and Dissolved Metals		
Aluminum ($\mu\text{g}/\text{L}$ as Al)	2 $\mu\text{g}/\text{L}$	EPA 200.8
Antimony ($\mu\text{g}/\text{L}$ as Sb)	0.07 $\mu\text{g}/\text{L}$	EPA 200.8
Arsenic ($\mu\text{g}/\text{L}$ as As)	0.09 $\mu\text{g}/\text{L}$	EPA 200.8
Barium ($\mu\text{g}/\text{L}$ as Ba)	0.08 $\mu\text{g}/\text{L}$	EPA 200.8
Beryllium ($\mu\text{g}/\text{L}$ as Be)	0.02 $\mu\text{g}/\text{L}$	EPA 200.8
Cadmium ($\mu\text{g}/\text{L}$ as Cd)	0.03 $\mu\text{g}/\text{L}$	EPA 200.8
Calcium ($\mu\text{g}/\text{L}$ as Ca)	10 $\mu\text{g}/\text{L}$	EPA 200.8
Chromium (ug/l as Cr)	0.25 ug/L	EPA 200.8
Copper ($\mu\text{g}/\text{L}$ as Cu)	0.07 $\mu\text{g}/\text{L}$	EPA 200.8
Iron ($\mu\text{g}/\text{L}$ as Fe)	4.67 $\mu\text{g}/\text{L}$	EPA 200.8
Lead ($\mu\text{g}/\text{L}$ as Pb)	0.05 $\mu\text{g}/\text{L}$	EPA 200.8
Magnesium ($\mu\text{g}/\text{L}$ as Mg)	2.5 $\mu\text{g}/\text{L}$	EPA 200.8
Manganese ($\mu\text{g}/\text{L}$ as Mn)	0.17 $\mu\text{g}/\text{L}$	EPA 200.8
Mercury ($\mu\text{g}/\text{L}$ as Hg)	0.049 $\mu\text{g}/\text{L}$	EPA 245.1
Nickel ($\mu\text{g}/\text{L}$ as Ni)	0.07 $\mu\text{g}/\text{L}$	EPA 200.8
Potassium ($\mu\text{g}/\text{L}$ as K)	10 $\mu\text{g}/\text{L}$	EPA 200.8
Selenium (ug/l as Se)	0.22 ug/L	EPA 200.8
Silver (ug/L as Ag)	0.25 ug/L	EPA 200.8
Sodium ($\mu\text{g}/\text{L}$ as Na)	25 $\mu\text{g}/\text{L}$	EPA 200.8
Thallium ($\mu\text{g}/\text{L}$ as Tl)	0.05 ug/L	EPA 200.8
Vanadium ($\mu\text{g}/\text{L}$ as V)	0.05 ug/L	EPA 200.8
Zinc ($\mu\text{g}/\text{L}$ as Zn)	2.5 $\mu\text{g}/\text{L}$	EPA 200.8

4.0 Flow Measurement Methods

Flows were measured at the river sampling locations where accessible. Flow Measurements were not collected at areas where ice and snow buildup prohibited safe access. The flow measurements obtained this sampling period are described in Section 2.3. Flow velocity was measured for sampling locations DR-2, DR-3, DR-6, and DR-7. Flow measurements were not collected at DR-1, DR-4-SW, and DR-G due to ice and snow buildup and lack of safe access, as described above. Velocity measurements at DR-4 and DR-5 were not collected for this sampling period due to ice buildup in that prevented safe access and accurate results. Ice buildup at pond spillways may have influenced water levels. Refer to Figures 3 through 8 in Appendix E for these cross sections. The flowrates are presented on Table 3 in Appendix B.

Flowrates collected during this sampling event were taken by use of a Global Water Flow Probe FP211 portable flow meter using the six-tenths-depth method. This method uses the velocity at six-tenths of the depth as the mean velocity. This method is generally reliable between depths from 0.3 feet to 2.5 feet. Stream sections were selected with the desired characteristics of parallel flows, smooth streambed with minimal obstructions, a straight channel, and a flat streambed. The stream section, perpendicular to the flow was measured in feet. The width of the section was determined and divided into several vertical sections. Flow measurements of velocity (by the six-tenths-depth method) and water depth were measured at each vertical section using the Global Water Flow Probe FP211. The flow meter was set to the 3 second fixed period average mode. A minimum of three velocity readings were recorded at each vertical section. Flows were calculated for each stream section using the water depth, horizontal distance, and averaged velocity data.

The St. Louis tunnel flow (DR-3) and St. Louis pond discharge (DR-6) currently have Parshall flumes installed. Flow measurements can be determined at these flumes when the depth of flow is known at a particular point. In order to continuously monitor and measure the depth of flow, depth measurement devices were installed on May 11th, 2011 and May 12th, 2011 at both the north and south flumes. An STI Ultrasonic IRU-5180 automated water level detector was installed at the north Parshall flume. It is suspended over the flow stream and measures the distance from the sensor to the water surface using ultrasonic sound waves. It then uses that value to determine the depth of flow, and reports it. The south flume has a submersible pressure transducer called the OTT Orpheus Mini. It records deviations from a pre-programmed depth of air space from the top edge of the flume down to the water level. Knowing then the total depth of the flume, the depth of flow can be determined. The post processed data for the OTT Orpheus Mini for the month of January 2012 is given in Appendix J.

It has been observed that the ultrasonic flow equipment at the north Parshall flume (DR-3) has recorded readings with some variability. Actions have been taken to reduce turbulent flow entering the flume by laying the liner as flat as possible. Additionally, the manufacturer has provided guidance for data error correction that has been implemented. In order to obtain further flow data, an OTT PLS pressure transducer water flow measurement device has been

installed and was programmed to begin taking readings in mid December 2011. Data from this device for this sampling period is included in Appendix I.

Data from the two flow devices at the north Parshall flume indicate that the OTT PLS is recording data with much less variability between readings than the STI Ultrasonic IRU-5180 meter. Results show that the OTT PLS data rarely has any random fluctuations, and if so, they are no more than a 20 gpm difference. The STI ultrasonic meter however has a great deal more variability, with the flowrates changing often in the same day or even in the same hour by more than 100 gpm in some cases. The data from the STI Ultrasonic IRU-5180 meter has been difficult to analyze due to this variability.

The conditions of the flow stream at the Parshall flume where the device is installed and the nature of the device's operation is most likely to account for the data variability. The flow stream is turbulent, even with the efforts that have been made to slow it down and smooth the water surface. The ultrasonic meter reads the water level from the surface of the water, and due to the turbulent surface, inaccurate readings are resulting.

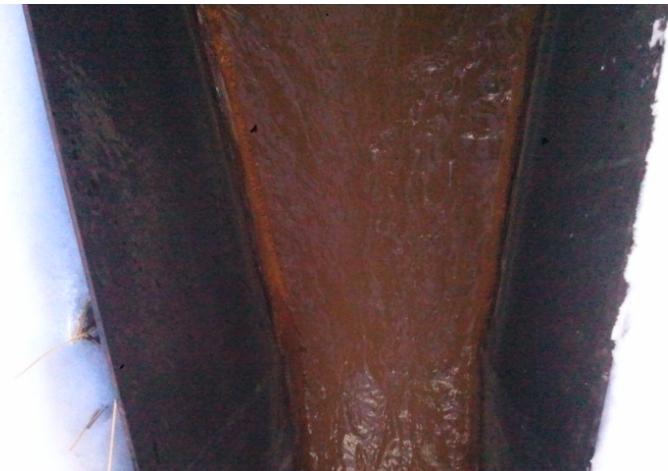
The OTT PLS however is a submersible pressure transducer that is installed on the side of the Parshall flume in a small PVC stilling well. The stilling well allows the water to enter and remain undisturbed so the transducer can take accurate depth readings. This eliminates the problems caused from the turbulent flow, giving much more consistent readings.

Originally, a non-contact meter like the STI Ultrasonic IRU-5180 was chosen because it was thought that a submersible transducer unit would become fouled too easily due to the suspended metals in the water. However, the OTT PLS has been shown to maintain accurate readings for periods greater than two months. Excessive fouling does not occur in that time period and cleaning is easy to perform. Therefore, it has been decided that the STI Ultrasonic IRU-5180 meter will be remain installed at the north flume as a redundant backup system, and the only data from the the OTT PLS submersible pressure transducer will be included in the monthly reports. The transducer will be cleaned on a monthly basis to prevent fouling and data inaccuracies.

The results listed in Appendix I include not only those for the month of January 2012, but back to December 14, 2012. This is due to the need to highlight an issue with the flow that occurred between these two months in the north Parshall flume. On December 26, 2011, a small piece of the HDPE liner from the channel came loose and drifted toward the flume, getting lodged in the throat of the flume. The water level was artificially raised, resulting in a jump in flow at approximately 4:00 PM. The photo below shows the obstruction.



At approximately 1:00 PM on January 17, 2012, the obstruction was discovered by the field sampling crew. Photos were taken and the obstruction was removed as seen below.



The removal of the obstruction corresponds to a sudden decrease in flow seen in the data in Appendix I at the time indicated above.

5.0 Analytical Results

The results of the laboratory analysis are summarized on Table 4 and Table 4a in Appendix B. The data is organized by sample location. The reports for the laboratory results are contained in Appendix C.

6.0 Quality Control

In addition to the standard laboratory Quality Control (QC), field QC samples for this sampling event included a field duplicate and a Field Blank (FB).

6.1 Field QC

A field duplicate water sample was collected from sample location DR-3. During sample collection, the duplicate sample bottles were filled simultaneously from

the discharge stream of water. The duplicate sample was submitted to the analytical laboratory with the label of DR-8, so as to serve as a “blind duplicate.”

Table 5 compares the analytical results from DR-3 and DR-8 and presents the Relative Percent Difference (RPD). The RPD for aqueous samples should be +/- 20%. All comparative values were within +/-20%.

TABLE 5 – Relative Percent Difference (RPD) of Total Metals Portion Between DR-3 and Duplicate Sample DR-8

Analyte (Total)	DR-3 ($\mu\text{g/L}$)	DR-8 ($\mu\text{g/L}$) Duplicate of DR-3	RPD (%)
Aluminum	458	486	5.93
Arsenic	0.69	0.68	-1.46
Barium	19.1	19.5	2.07
Cadmium	14.6	15.4	5.33
Calcium	232000	256000	9.84
Chromium	<0.50	0.74	-
Copper	75.3	77.5	2.88
Iron	7080	7520	6.03
Lead	6.7	7.1	5.80
Magnesium	19400	20900	7.44
Manganese	2150	2350	8.89
Mercury	<0.20	<0.20	-
Nickel	5.3	5.4	1.87
Potassium	1460	1520	4.03
Selenium	<0.50	<0.50	-
Silver	<0.50	<0.50	-
Sodium	11900	12600	5.71
Thallium	<0.10	<0.10	-
Vanadium	<0.10	<0.10	-
Zinc	3200	3530	9.81
Alkalinity (mg/L)	108	120	10.53
Hardness	660000	726000	9.52
TDS (mg/L)	1020	1020	0.00
TSS (mg/L)	18.0	16.0	-11.76
Cyanide	<0.0050	<0.0050	-
Sulfate (mg/L)	637	649	1.87

A Field Blank (FB) was collected by pouring distilled water through the filtering manifold after the first day of sampling and decontaminating the equipment. The FB was analyzed for the same constituents as the other samples. The FB had below detectable concentrations for all metals except total calcium, total potassium, dissolved barium, dissolved potassium, and dissolved sodium. The pH was a little below neutral, the Electrical Conductivity (EC) was low, and it showed a non-detectable level of alkalinity.

6.2 Laboratory QC

The laboratory control sample (LCS), method blank, matrix spike, and matrix spike duplicate sample results were all within the established limits of concentration, percent recovery, and relative percent difference, with several minor exceptions. Please refer to the Laboratory QC Results in Appendix D for exceptions and for a full QC report.

Appendix A
Sampling Location Maps

General Notes



SCALE IN FEET
0 250 500

No.	Revision/Issue	Date

BP / ARCO



RICO SURFACE WATER
SAMOPLING

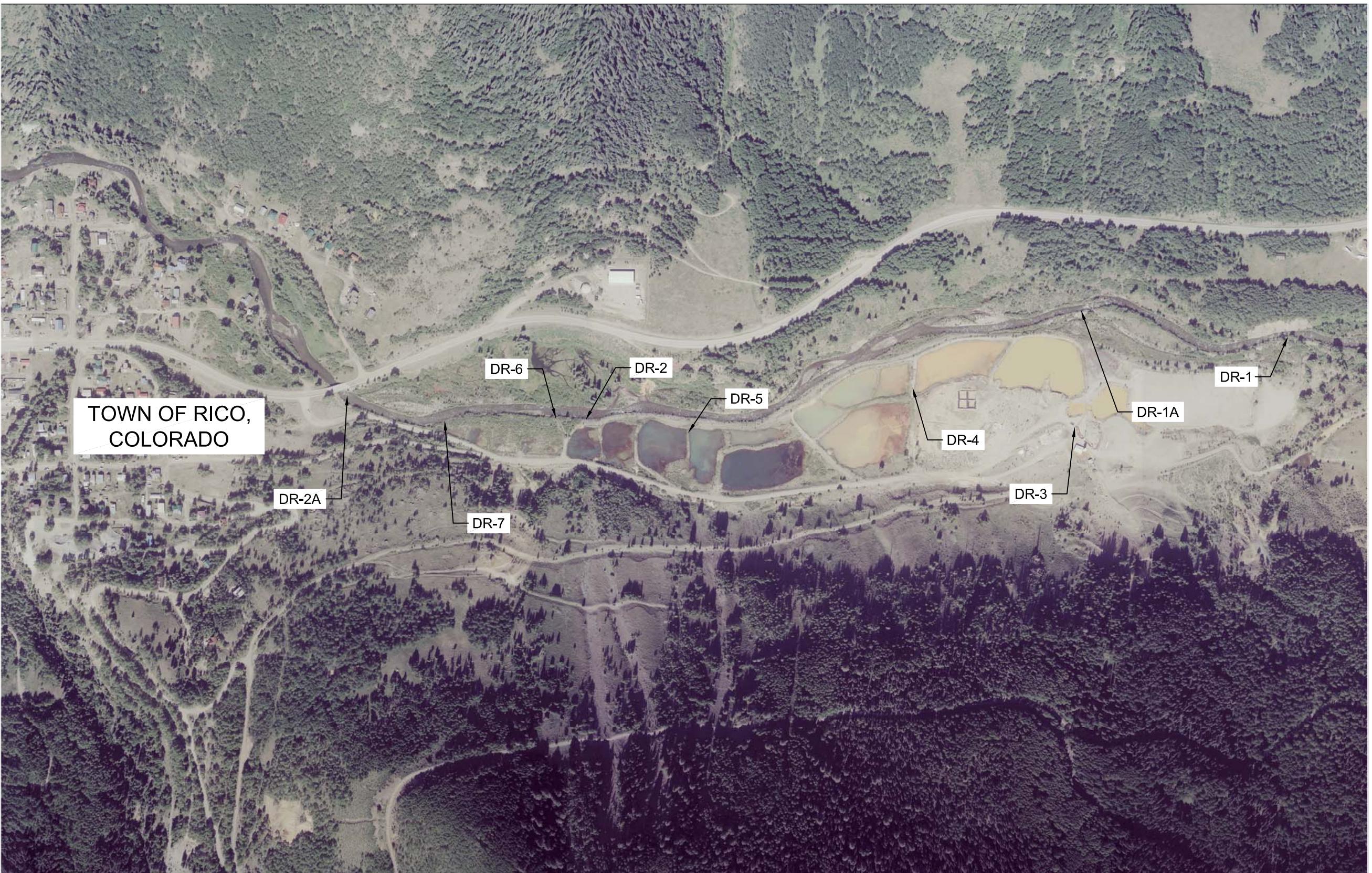
ST. LOIUS PONDS AREA
SAMPLING LOCATIONS

RICO,
COLORADO

DRAWN BY: MAD
ENGINEER: MAD
APPROVED: CES

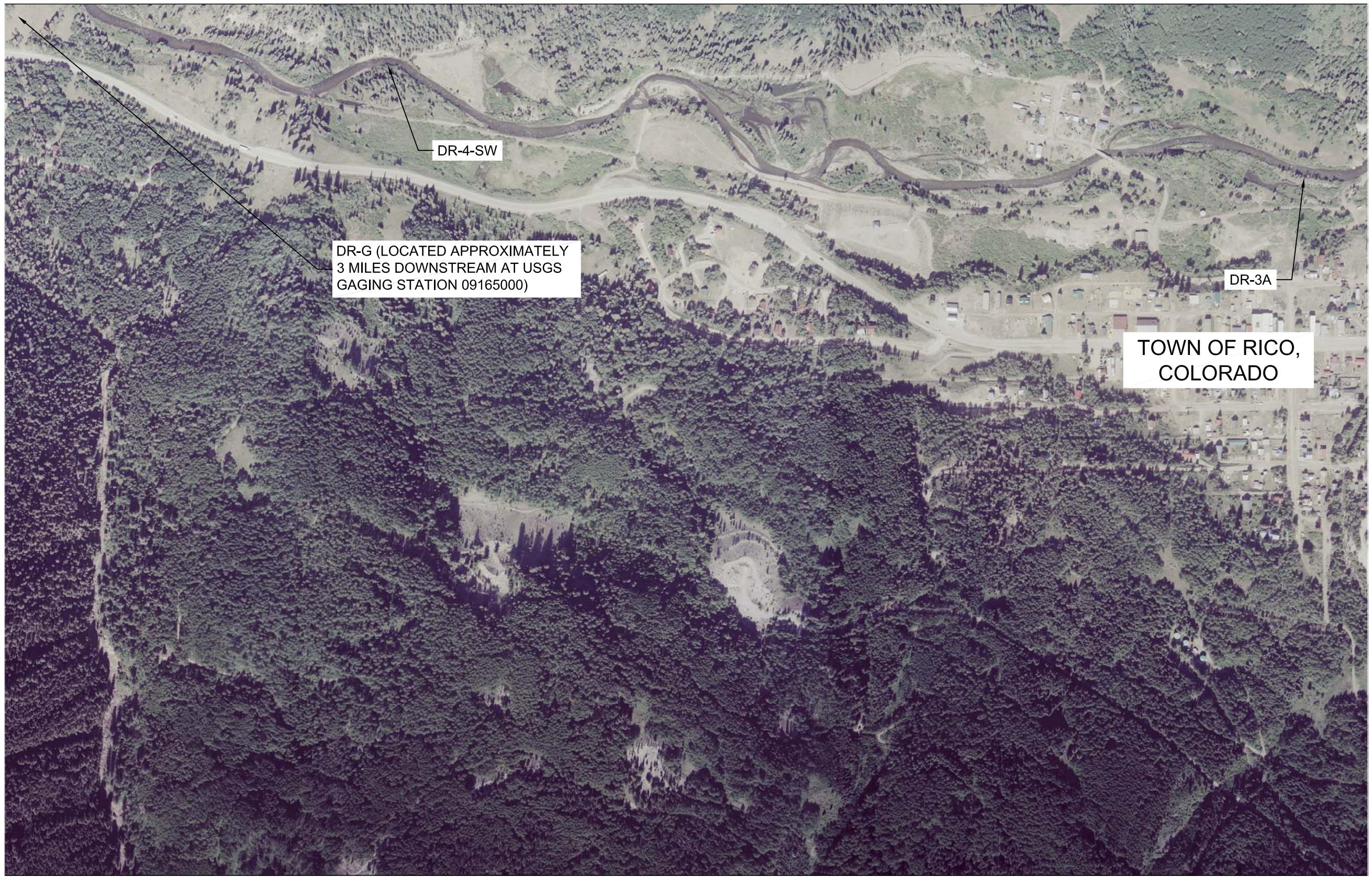
Project: ST LOUIS PONDS SAMPLING LOCATIONS
Date: 5-Apr-12
Scale: 1" = 500'

Sheet 1



01 ST LOUIS PONDS SAMPLING LOCATIONS

SCALE - 1" = 500'



1a **SAMPLING LOCATION SOUTH OF RICO, CO**

SCALE - 1" = 500'

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF ANDERSON ENGINEERING COMPANY, INC., 977 WEST 2100 SOUTH, SALT LAKE CITY, UTAH, 84119 AND SHALL NOT BE COPIED, REDUCED, OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

General Notes



SCALE IN FEET



A horizontal scale bar with tick marks at 0, 250, and 500. The word "SCALE IN FEET" is written above the bar.

SCALE IN FEET



A horizontal scale bar with tick marks at 0, 250, and 500. The word "SCALE IN FEET" is written above it.

• 300 •

DR-3A

TOWN OF RICO, COLORADO

o.	Revision / Issue	Date

BP / ARCO



ANDERSON

ENGINEERING COMPANY, INC.

877 WEST 2100 SOUTH
SALT LAKE CITY, UTAH 84119
(800) 520-0000

RICO SURFACE WATER SAMOPLING

SAMPLING LOCATIONS SOUTH OF RICO, CO

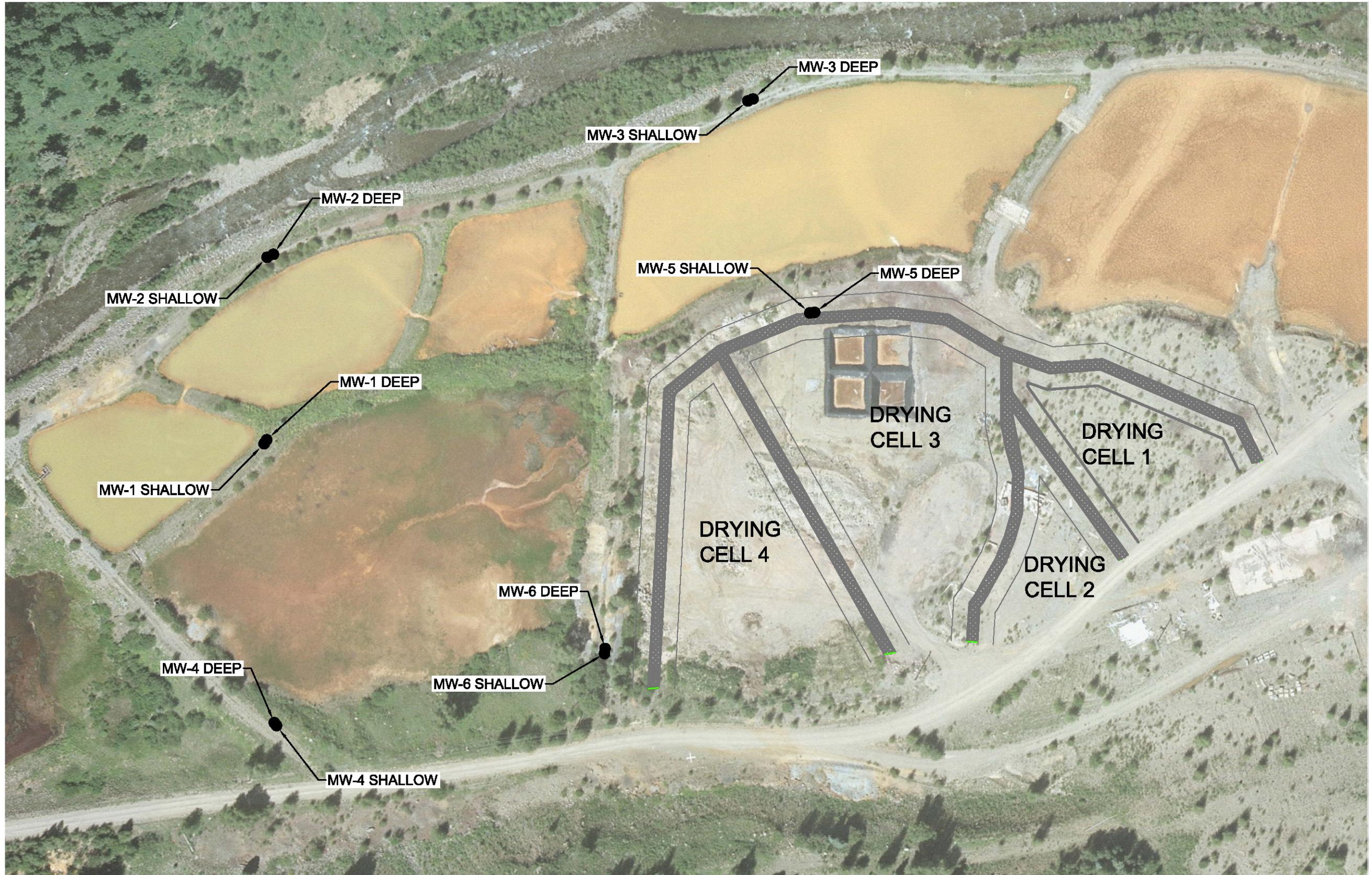
RICO,

COLORADO

DRAWN BY:	MAD
ENGINEER:	MAD
APPROVED:	CES

Project	Sheet
Date	5-Apr-12
Scale	1" = 500'

1a



02 MONITORING WELL LOCATIONS

SCALE - 1" = 100'

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF ANDERSON ENGINEERING COMPANY, INC., 977 WEST 2100 SOUTH,
SALT LAKE CITY, UTAH, 84119 AND SHALL NOT BE COPIED, REDUCED, OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

General Notes		
SCALE IN FEET 0 50 100		
No.	Revision/Issue	Date
BP / ARCO		
ANDERSON ENGINEERING COMPANY, INC. 977 WEST 2100 SOUTH SALT LAKE CITY, UTAH (801) 972-8222		
RICO GW WELL MONITORING MONITORING WELL LOCATIONS RICO COLORADO		
DRAWN BY:	MAD	
ENGINEER:	MAD	
APPROVED:	CES	
Project	Sheet	2
Date	5-Apr-12	
Scale	1" = 100'	

Appendix B

Data Tables

TABLE 3 - Sampling Field Data and Station Information Summary

	Field Measurements				GPS Location (Colorado State Plane NAD83)						
Sample Location	pH	Temp (°C)	EC (mS/cm)	Dissolved Oxygen (ppm)	Northing	Easting	Date	By	Stream Cross section area (ft^2)	Flowrate (cfs)	Comments
DR-1	8.27	1.78	0.285	2.34	1389970.4600	2267573.6490	1/17/2012	M. DeFriez, T. Barbee	CNO	CNO	Cross section on the Dolores River above St. Louis settling pond system (approximately 800 ft north of the northern edge of Pond 18). Flow measurement could not be obtained due to ice shelf over water.
DR-2	8.41	2.06	0.340	2.56	1386660.9610	2267971.4630	1/17/2012	M. DeFriez, T. Barbee	29.1	17.8	Cross section on the Dolores River, approximately 150 ft north of system outfall. Flow measurement by flow meter.
DR-3	7.48	11.1	1.245	2.13	1388963.0808	2268004.6974	1/17/2012	M. DeFriez, T. Barbee	NA	1.61 - Ultrasonic	St Louis adit discharge. Flow measurement by installed Parshall Flume. Water level by installed STI Ultrasonic IRU-5180 water level meter and an OTT PLS submersible pressure transducer.
										1.70 - OTT PLS	
DR-4	7.15	7.78	1.175	1.99	1388153.6284	2267799.1579	1/17/2012	M. DeFriez, T. Barbee	NA	1.52	Pond 15 discharge. Flow measurement by flow meter.
DR-5	6.20	1.78	1.175	2.66	1387273.4503	2268024.8524	1/17/2012	M. DeFriez, T. Barbee	NA	1.43	Pond 8 was discharging at multiple small locations as well as the spillway. Flow velocity measurements were collected at the spillway. Due to the shallow water and multiple paths, accurate flow measurements could not be determined for this sampling location and period. Leakage was estimated by water balance. Flow measurements were taken at spillway by flow meter.
DR-6	6.19	1.28	1.147	2.56	1386431.4984	2267964.5711	1/17/2012	M. DeFriez, T. Barbee	NA	1.38	Outfall to Dolores River. Flow measurement by installed Parshall Flume. Water level by OTT Orpheus Mini submersible pressure transducer.
DR-7	9.08	0.56	0.607	2.88	1385880.1050	2267983.4510	1/17/2012	M. DeFriez, T. Barbee	32.5	34.5	Cross section on the Dolores River, approximately 500 ft below St. Louis settling pond system outfall. Flow measurement by flow meter.
DR-8	7.48	11.1	1.245	2.13	1388963.0808	2268004.6974	1/17/2012	M. DeFriez, T. Barbee	NA	NA	DR-8 is a duplicate sample of DR-3 (or a location of sampler's choosing). See comments for DR-3.
DR-4-SW	6.20	-0.56	0.548	2.92	1379176.1190	2266285.0850	1/17/2012	M. DeFriez, T. Barbee	CNO	CNO	Cross section on the Dolores River approximately 100 below the Silver Swan site. Flow measurement could not be obtained due to ice shelf over water.
DR-G	9.04	-0.67	0.612	2.98	1364029.7850	2258752.9060	1/17/2012	M. DeFriez, T. Barbee	CNO	CNO	Cross section on the Dolores River at USGS gauging station #09165000, approximately 3.5 miles downstream of the Silver Swan site. Flow measurement could not be obtained due to ice shelf over water.
FB	8.47	4.56	0.0	2.56	N/A	N/A	1/17/2012	M. DeFriez, T. Barbee	NA	NA	Field blank
MW-1 SHALLOW	7.39	6.06	1.139	1.79	1387826.7470	2267944.5160	1/18/2012	M. DeFriez, T. Barbee	NA	NA	Both wells are located about 4 feet apart on the western embankment of Pond 13 at the division between Pond 11 and Pond 12.
MW-1 DEEP	7.81	7.06	1.093	1.68	1387829.4070	2267940.5680	1/18/2012	M. DeFriez, T. Barbee	NA	NA	
MW-2 SHALLOW	DRY	DRY	DRY	DRY	1387829.7580	2267759.0810	1/18/2012	M. DeFriez, T. Barbee	NA	NA	Both wells are located about 4 feet apart on the western flood embankment of Pond 12, about mid-way along the pond.
MW-2 DEEP	7.60	10.0	1.122	1.56	1387836.0950	2267756.0910	1/18/2012	M. DeFriez, T. Barbee	NA	NA	MW-2 SHALLOW was dry
MW-3 SHALLOW	DRY	DRY	DRY	DRY	1388308.0910	2267603.5420	1/18/2012	M. DeFriez, T. Barbee	NA	NA	Bothe wells are located about 4 feet apart on the western flood embankment of Pond 15, on the southern half of the embankment. MW-3 SHALLOW was dry.
MW-3 DEEP	7.25	9.89	1.130	1.62	1388313.2060	2267601.6050	1/18/2012	M. DeFriez, T. Barbee	NA	NA	
MW-4 SHALLOW	6.65	10.1	1.341	1.67	1387836.9670	2268221.9370	1/18/2012	M. DeFriez, T. Barbee	NA	NA	Both wells are located about 4 feet apart on the southern embankment of Pond 13, approximately 60 west of the main east access road.
MW-4 DEEP	7.01	10.9	1.385	1.70	1387839.1320	2268224.8950	1/18/2012	M. DeFriez, T. Barbee	NA	NA	
MW-5 SHALLOW	5.94	9.56	2.50	1.67	1388369.7050	2267814.3980	1/18/2012	M. DeFriez, T. Barbee	NA	NA	Both wells are located about 4 feet apart on the western dike of drying cell 3 (refer to Figure 9).
MW-5 DEEP	6.86	9.17	2.35	1.76	1388374.5740	2267813.8150	1/18/2012	M. DeFriez, T. Barbee	NA	NA	
MW-6 SHALLOW	6.94	8.89	2.05	1.79	1388166.1000	2268148.1000	1/18/2012	M. DeFriez, T. Barbee	NA	NA	Both wells are located about 4 feet apart on northern embankment of Pond 13, approximately 75 feet west of the main east access road
MW-6 DEEP	7.03	10.8	1.378	1.51	1388165.5290	2268153.3270	1/18/2012	M. DeFriez, T. Barbee	NA	NA	

TABLE 4 - Analytical Sampling Results Summary January 2012

Metals (ug/L)																								Non-Metals (mg/L, unless otherwise indicated)										Field Parameters					
DR-1: Delores River above St. Louis settling pond system		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)			
DR-1	1/17/12	Total	15.4	-	<0.50	72.7	-	<0.080	50100	0.72	<50.0	<0.10	7820	21.7	<0.20	<0.50	693	<0.50	<0.50	5180	<0.10	<5.0	96.0	157000	176	<5.0	<0.0050	-	49.3	8.27	1.78	0.285	2.34						
DR-1 D	1/17/12	Dissolved	<4.0	-	<0.50	71.8	-	<0.080	49000	<0.50	0.81	<50.0	<0.10	6930	18.7	<0.20	<0.50	663	<0.50	<0.50	4910	<0.10	<5.0	96.0	157000	176	<5.0	<0.0050	-	49.3	8.27	1.78	0.285	2.34					
DR-2: Delores River immediately above the St. Louis settling pond system outfall		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)			
DR-2	1/17/12	Total	12.6	-	<0.50	66.9	-	<0.080	72100	<0.50	0.82	55.2	<0.10	10300	188	<0.20	<0.50	767	<0.50	<0.50	6590	<0.10	<5.0	7.5	110	222000	223	<5.0	<0.0050	-	77.2	8.41	2.06	0.340	2.56				
DR-2 D	1/17/12	Dissolved	4.5	-	<0.50	70.0	-	<0.080	61900	<0.50	0.83	<50.0	0.19	8160	190	<0.20	<0.50	621	<0.50	<0.50	5480	<0.10	<5.0	7.4	110	222000	223	<5.0	<0.0050	-	77.2	8.41	2.06	0.340	2.56				
DR-3: St. Louis tunnel discharge at adit		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)			
DR-3	1/17/12	Total	458	-	0.69	19.1	-	14.6	232000	<0.50	75.3	7080	6.7	19400	2150	<0.20	5.3	1460	<0.50	<0.50	11900	<0.10	<5.0	3200	108	660000	1020	18.0	<0.0050	-	637	7.48	11.1	1.245	2.13				
DR-3 D	1/17/12	Dissolved	22.8	-	<0.50	20.3	-	15.8	246000	<0.50	6.1	2740	<0.10	20700	3210	<0.20	5.7	1750	<0.50	<0.50	12800	<0.10	<5.0	4520	108	660000	1020	18.0	<0.0050	-	637	7.48	11.1	1.245	2.13				
DR-4: Discharge of Pond 15		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)			
DR-4	1/17/12	Total	306	-	<0.50	20.4	-	14.6	223000	<0.50	51.1	4850	4.6	20900	1980	<0.20	5.7	1460	<0.50	<0.50	13400	<0.10	<5.0	2840	100	643000	1020	11.0	<0.0050	-	653	7.15	7.78	1.175	1.99				
DR-4 D	1/17/12	Dissolved	5.4	-	<0.50	18.9	-	12.1	245000	<0.50	1.5	<50.0	<0.10	20100	3050	<0.20	5.4	1660	<0.50	<0.50	13100	<0.10	<5.0	3390	100	643000	1020	11.0	<0.0050	-	653	7.15	7.78	1.175	1.99				
DR-5: Discharge of Pond 8		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)			
DR-5	1/17/12	Total	207	-	<0.50	18.6	-	12.7	212000	0.55	34.5	3450	3.0	19500	1790	<0.20	5.2	1590	<0.50	<0.50	13000	<0.10	<5.0	2500	118	611000	988	8.0	<0.0050	-	612	6.20	1.78	1.175	2.66				
DR-5 D	1/17/12	Dissolved	<4.0	-	<0.50	18.4	-	11.4	246000	1.2	1.4	<50.0	<0.10	20600	2230	<0.20	5.5	1720	<0.50	<0.50	12900	<0.10	<5.0	2600	118	611000	988	8.0	<0.0050	-	612	6.20	1.78	1.175	2.66				
DR-6: St. Louis settling pond system outfall to the Delores River (Outfall 002)		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)			
DR-6	1/17/12	Total	162	-	<0.50	17.8	-	11.6	230000	<0.50	27.2	2820	2.3	21400	1810	<0.20	4.6	1920	<0.50	<0.50	14300	<0.10	<5.0	2490	120	663000	1010	7.0	<0.0050	-	619	6.19	1.28	1.147	2.56				
DR-6 D	1/17/12	Dissolved	6.4	-	<0.50	18.3	-	10.5	252000	<0.50	1.8	90.5	<0.10	27900	2250	<0.20	4.7	2040	<0.50	<0.50	14600	<0.10	<5.0	2730	120	663000	1010	7.0	<0.0050	-	619	6.19	1.28	1.147	2.56				
DR-7: Delores River below St. Louis settling pond system outfall		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO ₃)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)			
DR-7	1/17/12	Total	30.6	-	0.80	59.1	-	1.4	129000	<0.50	3.6	498	0.35	12200	396	<0.20	0.78	1600	<0.50	<0.50	6200	<0.10	<5.0	280	148	373000	371	<5.0	<0.0050	-	164	9.08	0.56	0.607	2.88				
DR-7 D	1/17/12	Dissolved	<4.0	-	0.61	53.9	-	0.98	105000	<0.50	0.81	108	<0.10	11100	348	<0.20	0.78	1460	<0.50	<0.50	5700	<0.10	<5.0	225	148	373000	371	<5.0	<0.0050	-	164	9.08	0.56	0.					

TABLE 4a - Monitoring Well Analytical Sampling Results Summary January 2012

Metals (ug/L)																									Non-Metals (mg/L, unless otherwise indicated)										Field Parameters					
Field Sample ID		Date Collected	Fraction	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	Alkalinity	Hardness (ug/L as CaCO3)	TDS	TSS	Cyanide	Salinity	Sulfate	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (ppm)				
MW-1 SHALLOW DEPTH: 6.38'																																								
MW-1 SHALLOW	1/18/12	Total	2590	-	1.9	52.5	-	0.51	215000	2.4	8.0	2810	16.8	21600	130	<0.20	1.7	1930	16.1	<0.50	12100	0.12	3.6	71.5	92.0	625000	961	102	<0.0050		653	7.39	6.06	1.139	1.79					
MW-1 SHALLOW Dissolved	1/18/12	Dissolved	4.1	-	<0.50	19.7	-	0.28	222000	<0.50	0.82	<50.0	<0.10	21800	2.2	<0.20	0.74	1300	14.9	<0.50	11800	<0.10	<0.10	42.6																
MW-1 DEEP DEPTH: 9.14'																																								
MW-1 DEEP	1/18/12	Total	53.1	-	<0.50	14.0	-	2.1	232000	0.73	3.3	167	2.2	20100	14.0	<0.20	0.74	1350	7.4	<0.50	10400	<0.10	0.17	511	92.0	663000	940	5.0	<0.0050		621	7.81	7.06	1.093	1.68					
MW-1 DEEP Dissolved	1/18/12	Dissolved	<4.0	-	<0.50	13.5	-	1.9	221000	<0.50	2.8	<50.0	<0.10	20300	3.4	<0.20	0.68	1300	7.9	<0.50	10200	<0.10	<0.10	450																
MW-2 SHALLOW DEPTH: NA																																								
MW-2 SHALLOW	1/18/12	Total																																						
MW-2 SHALLOW Dissolved	1/18/12	Dissolved																																						
WELL WAS DRY																																								
MW-2 DEEP DEPTH: 10.20'																																								
MW-2 DEEP	1/18/12	Total	482	-	<0.50	19.0	-	1.1	221000	1.2	2.7	700	3.8	20400	15.4	<0.20	0.69	1890	1.4	<0.50	11600	<0.10	0.66	30.0	90.0	635000	935	32.0	<0.0050		648	7.60	10.0	1.122	1.56					
MW-2 DEEP Dissolved	1/18/12	Dissolved	7.3	-	<0.50	13.3	-	1.0	215000	<0.50	0.99	<50.0	<0.10	21500	3.0	<0.20	0.55	1800	1.4	<0.50	11400	<0.10	<0.10	20.6																
MW-3 SHALLOW DEPTH: NA																																								
MW-3 SHALLOW	1/18/12	Total																																						
MW-3 SHALLOW Dissolved	1/18/12	Dissolved																																						
WELL WAS DRY																																								
MW-3 DEEP DEPTH: 10.37'																																								
MW-3 DEEP	1/18/12	Total	153	-	5.3	20.1	-	0.15	197000	0.61	1.3	23600	1.9	21500	1140	<0.20	1.5	1880	<0.50	<0.50	9100	<0.10	0.46	132	90.0	580000	983	52.0	<0.0050		615	7.25	9.89	1.130	1.62					
MW-3 DEEP Dissolved	1/18/12	Dissolved	5.4	-	<0.50	16.5	-	<0.080	216000	<0.50	0.67	<50.0	<0.10	23100	1230	<0.20	<0.50	9890	<0.10	<0.10	42.3																			
MW-4 SHALLOW DEPTH: 17.07'																																								
MW-4 SHALLOW	1/18/12	Total	22100	-	14.2	552	-	2.7	377000	21.5	103	26200	93.8	39200	3150	<0.20	21.8	8010	16.2	1.5	12300	0.52	29.1	388	372	110000	1030	1810	<0.0050		470	6.65	10.1	1.341	1.67					
MW-4 SHALLOW Dissolved	1/18/12	Dissolved	28.3	-	<0.50	68.8	-	1.2	274000	<0.50	2.6	69.3	0.34	31200	2780	<																								

Appendix C

Project Narrative and Laboratory Analytical Reports

February 29, 2012

Mark DeFriez
Anderson Engineering Company I
977 W 2100 S.
Salt Lake City, UT 84119

RE: Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Revised Report 2/29/12_rev.1
Added missing metals to Total & Dissolved

Dear Mark DeFriez:

Enclosed are the analytical results for sample(s) received by the laboratory on January 20, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather Wilson

heather.wilson@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 1 of 111

Page 1 of 117

CERTIFICATIONS

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

REPORT OF LABORATORY ANALYSIS

Page 2 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 2 of 117

SAMPLE SUMMARY

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60114003001	DR-1	Water	01/17/12 09:00	01/20/12 08:50
60114003002	DR-2	Water	01/17/12 14:30	01/20/12 08:50
60114003003	DR-3	Water	01/17/12 10:30	01/20/12 08:50
60114003004	DR-4	Water	01/17/12 14:00	01/20/12 08:50
60114003005	DR-5	Water	01/17/12 14:20	01/20/12 08:50
60114003006	DR-6	Water	01/17/12 14:45	01/20/12 08:50
60114003007	DR-7	Water	01/17/12 15:00	01/20/12 08:50
60114003008	DR-8	Water	01/17/12 10:40	01/20/12 08:50
60114003009	DR-4-SW	Water	01/17/12 15:45	01/20/12 08:50
60114003010	DR-G	Water	01/17/12 16:15	01/20/12 08:50
60114003011	FB	Water	01/17/12 10:45	01/20/12 08:50
60114003012	GW-7	Water	01/17/12 12:30	01/20/12 08:50
60114003013	EB-1	Water	01/17/12 11:30	01/20/12 08:50
60114003014	EB-2	Water	01/17/12 13:45	01/20/12 08:50
60114003015	GW-3	Water	01/17/12 10:00	01/20/12 08:50
60114003016	GW-5	Water	01/17/12 11:20	01/20/12 08:50
60114003017	MW-1 SHALLOW	Water	01/18/12 11:15	01/20/12 08:50
60114003018	MW-1 DEEP	Water	01/18/12 11:25	01/20/12 08:50
60114003019	MW-2 DEEP	Water	01/18/12 11:45	01/20/12 08:50
60114003020	MW-3 DEEP	Water	01/18/12 10:10	01/20/12 08:50
60114003021	MW-4 SHALLOW	Water	01/18/12 10:45	01/20/12 08:50
60114003022	MW-4 DEEP	Water	01/18/12 10:55	01/20/12 08:50
60114003023	MW-5 SHALLOW	Water	01/18/12 09:30	01/20/12 08:50
60114003024	MW-5 DEEP	Water	01/18/12 09:35	01/20/12 08:50
60114003025	MW-6 SHALLOW	Water	01/18/12 09:00	01/20/12 08:50
60114003026	MW-6 DEEP	Water	01/18/12 09:10	01/20/12 08:50

REPORT OF LABORATORY ANALYSIS

Page 3 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60114003001	DR-1	EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
60114003002	DR-2	EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
60114003003	DR-3	EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
60114003004	DR-4	EPA 200.8	RJS	19	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K

REPORT OF LABORATORY ANALYSIS

Page 4 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60114003005	DR-5	SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
60114003006	DR-6	SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	19	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
60114003007	DR-7	SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
60114003008	DR-8	SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 5 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60114003009	DR-4-SW	SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
60114003010	DR-G	EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
60114003011	FB	EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
60114003012	GW-7	SM 2320B	CMG	3	PASI-K
		EPA 200.8	RJS	20	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 6 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60114003013	EB-1	EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
60114003014	EB-2	EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
60114003015	GW-3	EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M

REPORT OF LABORATORY ANALYSIS

Page 7 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60114003016	GW-5	EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	LAJ	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
60114003017	MW-1 SHALLOW	EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
60114003018	MW-1 DEEP	EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
60114003019	MW-2 DEEP	EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K

REPORT OF LABORATORY ANALYSIS

Page 8 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60114003020	MW-3 DEEP	SM 2540C	CMG	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
60114003021	MW-4 SHALLOW	EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS, TL1	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
60114003022	MW-4 DEEP	EPA 200.8	RJS, TL1	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	RJS, TL1	19	PASI-M
60114003023	MW-5 SHALLOW	EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	LAJ	1	PASI-K

REPORT OF LABORATORY ANALYSIS

Page 9 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Lab ID	Sample ID	Method	Analysts	Analytics Reported	Laboratory
60114003024	MW-5 DEEP	EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	TL1	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	CMG	1	PASI-K
60114003025	MW-6 SHALLOW	SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	TL1	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		SM 4500-CN-E	AJM	1	PASI-K
60114003026	MW-6 DEEP	EPA 200.8	RJS	20	PASI-M
		EPA 200.8	TL1	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K
		SM 2540C	CMG	1	PASI-K
		SM 2540D	LAJ	1	PASI-K
		SM 4500-H+B	OL	1	PASI-K
		EPA 300.0	JML	1	PASI-K
		EPA 200.8	RJS	20	PASI-M
		EPA 200.8	TL1	19	PASI-M
		EPA 245.1	TEM	1	PASI-M
		EPA 245.1	TEM	1	PASI-M
		SM 2320B	CMG	3	PASI-K

REPORT OF LABORATORY ANALYSIS

Page 10 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Lab ID	Sample ID	Method	Analysts	Analytics Reported	Laboratory
		SM 4500-CN-E	AJM	1	PASI-K

REPORT OF LABORATORY ANALYSIS

Page 11 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 11 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Method: **EPA 200.8**

Description: 200.8 MET ICPMS

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

General Information:

26 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: ICPM/30701

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- BLANK (Lab ID: 1131434)
 - Iron
 - Magnesium
 - Nickel
 - Silver
 - Sodium
 - Vanadium
- DR-1 (Lab ID: 60114003001)
 - Iron
 - Nickel
 - Silver
- DR-2 (Lab ID: 60114003002)
 - Nickel
 - Silver
 - Vanadium
- MW-1 DEEP (Lab ID: 60114003018)
 - Silver

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

Page 12 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 12 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Method: **EPA 200.8**

Description: 200.8 MET ICPMS

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

QC Batch: ICPM/30703

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60114003024,92110663001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1131455)
 - Aluminum
 - Sodium
- MS (Lab ID: 1131456)
 - Calcium
 - Magnesium
 - Zinc
- MSD (Lab ID: 1131457)
 - Calcium
 - Magnesium
 - Zinc

QC Batch: ICPM/30701

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60114003002,60114003019

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1131436)
 - Calcium
 - Magnesium
- MSD (Lab ID: 1131437)
 - Calcium
 - Magnesium

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: ICPM/30701

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- EB-2 (Lab ID: 60114003014)
 - Thallium

QC Batch: ICPM/30703

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1131455)
 - Sodium
 - Calcium
 - Iron
 - Manganese
 - Zinc

REPORT OF LABORATORY ANALYSIS

Page 13 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 13 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Method: **EPA 200.8**

Description: 200.8 MET ICPMS

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

Analyte Comments:

QC Batch: ICPM/30703

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MSD (Lab ID: 1131457)
 - Iron
 - Manganese
 - Zinc

REPORT OF LABORATORY ANALYSIS

Page 14 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 14 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Method: **EPA 200.8**

Description: 200.8 MET ICPMS, Dissolved
Client: BP Anderson Engineering Company Inc.
Date: February 29, 2012

General Information:

26 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: ICPM/30700

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- DR-1 (Lab ID: 60114003001)
 - Silver, Dissolved
- DR-2 (Lab ID: 60114003002)
 - Silver, Dissolved
- DR-3 (Lab ID: 60114003003)
 - Silver, Dissolved
- DR-4 (Lab ID: 60114003004)
 - Silver, Dissolved
- DR-5 (Lab ID: 60114003005)
 - Silver, Dissolved

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: ICPM/30700

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60114003002,60114003020

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1131426)
 - Manganese, Dissolved
- MSD (Lab ID: 1131824)
 - Manganese, Dissolved
 - Zinc, Dissolved

REPORT OF LABORATORY ANALYSIS

Page 15 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 15 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Method: **EPA 200.8**

Description: 200.8 MET ICPMS, Dissolved

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: ICPM/30700

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1131426)
 - Calcium, Dissolved

QC Batch: ICPM/30702

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1131443)
 - Sodium, Dissolved
- MSD (Lab ID: 1131444)
 - Sodium, Dissolved

REPORT OF LABORATORY ANALYSIS

Page 16 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 16 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Method: EPA 245.1

Description: 245.1 Mercury

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

General Information:

26 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 17 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 17 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Method: **EPA 245.1**

Description: 245.1 Mercury, Dissolved

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

General Information:

26 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 18 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 18 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Method: **SM 2320B**

Description: 2320B Alkalinity

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

General Information:

26 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 19 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 19 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Method: **SM 2540C**

Description: 2540C Total Dissolved Solids

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

General Information:

26 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 20 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 20 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Method: **SM 2540D**

Description: 2540D Total Suspended Solids

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

General Information:

26 samples were analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: WET/33177

R1: RPD value was outside control limits.

- DUP (Lab ID: 942467)
- Total Suspended Solids

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 21 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 21 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Method: **SM 4500-H+B**

Description: 4500H+ pH, Electrometric

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

General Information:

26 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated more than 15 minutes after sample collection.

- DR-1 (Lab ID: 60114003001)
- DR-2 (Lab ID: 60114003002)
- DR-3 (Lab ID: 60114003003)
- DR-4 (Lab ID: 60114003004)
- DR-4-SW (Lab ID: 60114003009)
- DR-5 (Lab ID: 60114003005)
- DR-6 (Lab ID: 60114003006)
- DR-7 (Lab ID: 60114003007)
- DR-8 (Lab ID: 60114003008)
- DR-G (Lab ID: 60114003010)
- EB-1 (Lab ID: 60114003013)
- EB-2 (Lab ID: 60114003014)
- FB (Lab ID: 60114003011)
- GW-3 (Lab ID: 60114003015)
- GW-5 (Lab ID: 60114003016)
- GW-7 (Lab ID: 60114003012)
- MW-1 DEEP (Lab ID: 60114003018)
- MW-1 SHALLOW (Lab ID: 60114003017)
- MW-2 DEEP (Lab ID: 60114003019)
- MW-3 DEEP (Lab ID: 60114003020)
- MW-4 DEEP (Lab ID: 60114003022)
- MW-4 SHALLOW (Lab ID: 60114003021)
- MW-5 DEEP (Lab ID: 60114003024)
- MW-5 SHALLOW (Lab ID: 60114003023)
- MW-6 DEEP (Lab ID: 60114003026)
- MW-6 SHALLOW (Lab ID: 60114003025)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

Page 22 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 22 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: BP Anderson Engineering Company Inc.
Date: February 29, 2012

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 23 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 23 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Method: **EPA 300.0**

Description: 300.0 IC Anions 28 Days

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

General Information:

26 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Page 24 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 24 of 117

PROJECT NARRATIVE

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Method: **SM 4500-CN-E**

Description: 4500CNE Cyanide, Total

Client: BP Anderson Engineering Company Inc.

Date: February 29, 2012

General Information:

26 samples were analyzed for SM 4500-CN-E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 25 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 25 of 117

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-1	Lab ID: 60114003001	Collected: 01/17/12 09:00	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	15.4 ug/L		4.0	1	01/25/12 14:03	01/26/12 20:56	7429-90-5	
Arsenic	ND ug/L		0.50	1	01/25/12 14:03	01/26/12 20:56	7440-38-2	
Barium	72.7 ug/L		0.30	1	01/25/12 14:03	01/26/12 20:56	7440-39-3	
Cadmium	ND ug/L		0.080	1	01/25/12 14:03	01/26/12 20:56	7440-43-9	
Calcium	50100 ug/L		100	5	01/25/12 14:03	01/30/12 11:16	7440-70-2	
Chromium	0.72 ug/L		0.50	1	01/25/12 14:03	01/26/12 20:56	7440-47-3	
Copper	0.62 ug/L		0.50	1	01/25/12 14:03	01/26/12 20:56	7440-50-8	
Iron	ND ug/L		50.0	1	01/25/12 14:03	01/26/12 20:56	7439-89-6	CH
Lead	ND ug/L		0.10	1	01/25/12 14:03	01/26/12 20:56	7439-92-1	
Magnesium	7820 ug/L		25.0	5	01/25/12 14:03	01/30/12 11:16	7439-95-4	
Manganese	21.7 ug/L		0.50	1	01/25/12 14:03	01/26/12 20:56	7439-96-5	
Nickel	ND ug/L		0.50	1	01/25/12 14:03	01/26/12 20:56	7440-02-0	CH
Potassium	693 ug/L		20.0	1	01/25/12 14:03	01/26/12 20:56	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/26/12 20:56	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/26/12 20:56	7440-22-4	CH
Sodium	5180 ug/L		250	5	01/25/12 14:03	01/30/12 11:16	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/26/12 20:56	7440-28-0	
Total Hardness by 2340B	157000 ug/L		355	5	01/25/12 14:03	01/30/12 11:16		
Vanadium	ND ug/L		0.10	1	01/25/12 14:03	02/23/12 10:57	7440-62-2	
Zinc	ND ug/L		5.0	1	01/25/12 14:03	01/26/12 20:56	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	ND ug/L		4.0	1	01/25/12 14:00	01/27/12 01:19	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:19	7440-38-2	
Barium, Dissolved	71.8 ug/L		0.30	1	01/25/12 14:00	01/27/12 01:19	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	01/25/12 14:00	01/27/12 01:19	7440-43-9	
Calcium, Dissolved	49000 ug/L		100	5	01/25/12 14:00	02/23/12 11:11	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:19	7440-47-3	
Copper, Dissolved	0.81 ug/L		0.50	1	01/25/12 14:00	01/27/12 01:19	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	01/25/12 14:00	01/27/12 01:19	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:19	7439-92-1	
Magnesium, Dissolved	6930 ug/L		5.0	1	01/25/12 14:00	01/27/12 01:19	7439-95-4	
Manganese, Dissolved	18.7 ug/L		0.50	1	01/25/12 14:00	01/27/12 01:19	7439-96-5	
Nickel, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:19	7440-02-0	
Potassium, Dissolved	663 ug/L		20.0	1	01/25/12 14:00	01/27/12 01:19	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:19	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:19	7440-22-4	CH
Sodium, Dissolved	4910 ug/L		50.0	1	01/25/12 14:00	01/27/12 01:19	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:19	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:19	7440-62-2	
Zinc, Dissolved	ND ug/L		5.0	1	01/25/12 14:00	01/27/12 01:19	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 13:58	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 26 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Sample: DR-1	Lab ID: 60114003001	Collected: 01/17/12 09:00	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 10:26	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	96.0	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Total as CaCO3	96.0	mg/L	20.0	1		01/31/12 10:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	176	mg/L	5.0	1		01/24/12 12:29		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		01/23/12 12:16		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	8.0	Std. Units	0.10	1		01/20/12 15:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	49.3	mg/L	5.0	5		01/26/12 17:20	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:01	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-2	Lab ID: 60114003002	Collected: 01/17/12 14:30	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	12.6 ug/L		4.0	1	01/25/12 14:03	01/26/12 21:05	7429-90-5	
Arsenic	ND ug/L		0.50	1	01/25/12 14:03	01/26/12 21:05	7440-38-2	
Barium	66.9 ug/L		0.30	1	01/25/12 14:03	01/26/12 21:05	7440-39-3	
Cadmium	ND ug/L		0.080	1	01/25/12 14:03	01/26/12 21:05	7440-43-9	
Calcium	72100 ug/L		100	5	01/25/12 14:03	01/30/12 11:20	7440-70-2	
Chromium	ND ug/L		0.50	1	01/25/12 14:03	01/26/12 21:05	7440-47-3	
Copper	0.82 ug/L		0.50	1	01/25/12 14:03	01/26/12 21:05	7440-50-8	
Iron	55.2 ug/L		50.0	1	01/25/12 14:03	02/23/12 11:01	7439-89-6	
Lead	ND ug/L		0.10	1	01/25/12 14:03	01/26/12 21:05	7439-92-1	
Magnesium	10300 ug/L		25.0	5	01/25/12 14:03	01/30/12 11:20	7439-95-4	
Manganese	188 ug/L		0.50	1	01/25/12 14:03	01/26/12 21:05	7439-96-5	
Nickel	ND ug/L		0.50	1	01/25/12 14:03	01/26/12 21:05	7440-02-0	CH
Potassium	767 ug/L		20.0	1	01/25/12 14:03	02/23/12 11:01	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/26/12 21:05	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/26/12 21:05	7440-22-4	CH
Sodium	6590 ug/L		250	5	01/25/12 14:03	01/30/12 11:20	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/26/12 21:05	7440-28-0	
Total Hardness by 2340B	222000 ug/L		355	5	01/25/12 14:03	01/30/12 11:20		
Vanadium	ND ug/L		0.10	1	01/25/12 14:03	01/26/12 21:05	7440-62-2	CH
Zinc	7.5 ug/L		5.0	1	01/25/12 14:03	01/26/12 21:05	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	4.5 ug/L		4.0	1	01/25/12 14:00	01/27/12 01:38	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:38	7440-38-2	
Barium, Dissolved	70.0 ug/L		0.30	1	01/25/12 14:00	01/27/12 01:38	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	01/25/12 14:00	01/27/12 01:38	7440-43-9	
Calcium, Dissolved	61900 ug/L		100	5	01/25/12 14:00	02/23/12 11:15	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:38	7440-47-3	
Copper, Dissolved	0.83 ug/L		0.50	1	01/25/12 14:00	01/27/12 01:38	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	01/25/12 14:00	01/27/12 01:38	7439-89-6	
Lead, Dissolved	0.19 ug/L		0.10	1	01/25/12 14:00	01/27/12 01:38	7439-92-1	
Magnesium, Dissolved	8160 ug/L		5.0	1	01/25/12 14:00	01/27/12 01:38	7439-95-4	
Manganese, Dissolved	190 ug/L		0.50	1	01/25/12 14:00	01/27/12 01:38	7439-96-5	M1
Nickel, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:38	7440-02-0	
Potassium, Dissolved	821 ug/L		20.0	1	01/25/12 14:00	01/27/12 01:38	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:38	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:38	7440-22-4	CH,M6
Sodium, Dissolved	5480 ug/L		50.0	1	01/25/12 14:00	01/27/12 01:38	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:38	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:38	7440-62-2	
Zinc, Dissolved	7.4 ug/L		5.0	1	01/25/12 14:00	01/27/12 01:38	7440-66-6	M1
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:04	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 28 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-2	Lab ID: 60114003002	Collected: 01/17/12 14:30	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 10:32	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	110	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Total as CaCO3	110	mg/L	20.0	1		01/31/12 10:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	223	mg/L	5.0	1		01/24/12 12:30		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		01/23/12 12:16		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.8	Std. Units	0.10	1		01/20/12 15:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	77.2	mg/L	5.0	5		01/26/12 18:02	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:02	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-3	Lab ID: 60114003003	Collected: 01/17/12 10:30	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	458 ug/L		4.0	1	01/25/12 14:03	01/30/12 11:34	7429-90-5	
Arsenic	0.69 ug/L		0.50	1	01/25/12 14:03	01/30/12 11:34	7440-38-2	
Barium	19.1 ug/L		0.30	1	01/25/12 14:03	01/30/12 11:34	7440-39-3	
Cadmium	14.6 ug/L		0.080	1	01/25/12 14:03	01/30/12 11:34	7440-43-9	
Calcium	232000 ug/L		400	20	01/25/12 14:03	01/30/12 11:39	7440-70-2	
Chromium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 11:34	7440-47-3	
Copper	75.3 ug/L		0.50	1	01/25/12 14:03	01/30/12 11:34	7440-50-8	
Iron	7080 ug/L		50.0	1	01/25/12 14:03	01/30/12 11:34	7439-89-6	
Lead	6.7 ug/L		0.10	1	01/25/12 14:03	01/30/12 11:34	7439-92-1	
Magnesium	19400 ug/L		5.0	1	01/25/12 14:03	01/30/12 11:34	7439-95-4	
Manganese	2150 ug/L		10.0	20	01/25/12 14:03	01/30/12 11:39	7439-96-5	
Nickel	5.3 ug/L		0.50	1	01/25/12 14:03	01/30/12 11:34	7440-02-0	
Potassium	1460 ug/L		20.0	1	01/25/12 14:03	01/30/12 11:34	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 11:34	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 11:34	7440-22-4	
Sodium	11900 ug/L		50.0	1	01/25/12 14:03	01/30/12 11:34	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 11:34	7440-28-0	
Total Hardness by 2340B	660000 ug/L		1420	20	01/25/12 14:03	01/30/12 11:39		
Vanadium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 11:34	7440-62-2	
Zinc	3200 ug/L		100	20	01/25/12 14:03	01/30/12 11:39	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	22.8 ug/L		4.0	1	01/25/12 14:00	01/27/12 01:24	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:24	7440-38-2	
Barium, Dissolved	20.3 ug/L		0.30	1	01/25/12 14:00	01/27/12 01:24	7440-39-3	
Cadmium, Dissolved	15.8 ug/L		0.080	1	01/25/12 14:00	01/27/12 01:24	7440-43-9	
Calcium, Dissolved	246000 ug/L		500	25	01/25/12 14:00	02/23/12 11:20	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:24	7440-47-3	
Copper, Dissolved	6.1 ug/L		0.50	1	01/25/12 14:00	01/27/12 01:24	7440-50-8	
Iron, Dissolved	2740 ug/L		50.0	1	01/25/12 14:00	01/27/12 01:24	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:24	7439-92-1	
Magnesium, Dissolved	20700 ug/L		5.0	1	01/25/12 14:00	01/27/12 01:24	7439-95-4	
Manganese, Dissolved	3210 ug/L		5.0	10	01/25/12 14:00	01/30/12 15:11	7439-96-5	
Nickel, Dissolved	5.7 ug/L		0.50	1	01/25/12 14:00	01/27/12 01:24	7440-02-0	
Potassium, Dissolved	1750 ug/L		20.0	1	01/25/12 14:00	01/27/12 01:24	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:24	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:24	7440-22-4	CH
Sodium, Dissolved	12800 ug/L		50.0	1	01/25/12 14:00	01/27/12 01:24	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:24	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:24	7440-62-2	
Zinc, Dissolved	4520 ug/L		50.0	10	01/25/12 14:00	01/30/12 15:11	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:06	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 30 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Sample: DR-3	Lab ID: 60114003003	Collected: 01/17/12 10:30	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 10:38	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	108	mg/L	20.0	1			01/31/12 10:00	
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1			01/31/12 10:00	
Alkalinity, Total as CaCO3	108	mg/L	20.0	1			01/31/12 10:00	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1020	mg/L	5.0	1			01/24/12 12:30	
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	18.0	mg/L	5.0	1			01/23/12 12:17	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.9	Std. Units	0.10	1			01/20/12 15:30	H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	637	mg/L	50.0	50			01/26/12 18:17	14808-79-8
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1			01/25/12 16:05	57-12-5

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-4	Lab ID: 60114003004	Collected: 01/17/12 14:00	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	306 ug/L		4.0	1	01/25/12 14:03	01/30/12 11:48	7429-90-5	
Arsenic	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 11:48	7440-38-2	
Barium	20.4 ug/L		0.30	1	01/25/12 14:03	01/30/12 11:48	7440-39-3	
Cadmium	14.6 ug/L		0.080	1	01/25/12 14:03	01/30/12 11:48	7440-43-9	
Calcium	223000 ug/L		400	20	01/25/12 14:03	01/30/12 11:53	7440-70-2	
Chromium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 11:48	7440-47-3	
Copper	51.1 ug/L		0.50	1	01/25/12 14:03	01/30/12 11:48	7440-50-8	
Iron	4850 ug/L		50.0	1	01/25/12 14:03	01/30/12 11:48	7439-89-6	
Lead	4.6 ug/L		0.10	1	01/25/12 14:03	01/30/12 11:48	7439-92-1	
Magnesium	20900 ug/L		5.0	1	01/25/12 14:03	01/30/12 11:48	7439-95-4	
Manganese	1980 ug/L		10.0	20	01/25/12 14:03	01/30/12 11:53	7439-96-5	
Nickel	5.7 ug/L		0.50	1	01/25/12 14:03	01/30/12 11:48	7440-02-0	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 11:48	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 11:48	7440-22-4	
Sodium	13400 ug/L		50.0	1	01/25/12 14:03	01/30/12 11:48	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 11:48	7440-28-0	
Total Hardness by 2340B	643000 ug/L		1420	20	01/25/12 14:03	01/30/12 11:53		
Vanadium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 11:48	7440-62-2	
Zinc	2840 ug/L		100	20	01/25/12 14:03	01/30/12 11:53	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	5.4 ug/L		4.0	1	01/25/12 14:00	01/27/12 01:28	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:28	7440-38-2	
Barium, Dissolved	18.9 ug/L		0.30	1	01/25/12 14:00	01/27/12 01:28	7440-39-3	
Cadmium, Dissolved	12.1 ug/L		0.080	1	01/25/12 14:00	01/27/12 01:28	7440-43-9	
Calcium, Dissolved	245000 ug/L		500	25	01/25/12 14:00	02/23/12 11:25	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:28	7440-47-3	
Copper, Dissolved	1.5 ug/L		0.50	1	01/25/12 14:00	01/27/12 01:28	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	01/25/12 14:00	01/27/12 01:28	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:28	7439-92-1	
Magnesium, Dissolved	20100 ug/L		5.0	1	01/25/12 14:00	01/27/12 01:28	7439-95-4	
Manganese, Dissolved	3050 ug/L		5.0	10	01/25/12 14:00	01/30/12 15:15	7439-96-5	
Nickel, Dissolved	5.4 ug/L		0.50	1	01/25/12 14:00	01/27/12 01:28	7440-02-0	
Potassium, Dissolved	1660 ug/L		20.0	1	01/25/12 14:00	01/27/12 01:28	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:28	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:28	7440-22-4	CH
Sodium, Dissolved	13100 ug/L		50.0	1	01/25/12 14:00	01/27/12 01:28	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:28	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:28	7440-62-2	
Zinc, Dissolved	3390 ug/L		50.0	10	01/25/12 14:00	01/30/12 15:15	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:12	7439-97-6	
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND ug/L		0.20	1	01/25/12 13:58	02/01/12 10:40	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 32 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-4	Lab ID: 60114003004	Collected: 01/17/12 14:00	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	100	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Total as CaCO3	100	mg/L	20.0	1		01/31/12 10:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1020	mg/L	5.0	1		01/24/12 12:30		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	11.0	mg/L	5.0	1		01/23/12 12:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.7	Std. Units	0.10	1		01/20/12 15:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	653	mg/L	50.0	50		01/26/12 18:31	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:06	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-5	Lab ID: 60114003005	Collected: 01/17/12 14:20	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	207 ug/L		4.0	1	01/25/12 14:03	01/30/12 12:07	7429-90-5	
Arsenic	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:07	7440-38-2	
Barium	18.6 ug/L		0.30	1	01/25/12 14:03	01/30/12 12:07	7440-39-3	
Cadmium	12.7 ug/L		0.080	1	01/25/12 14:03	01/30/12 12:07	7440-43-9	
Calcium	212000 ug/L		400	20	01/25/12 14:03	01/30/12 12:11	7440-70-2	
Chromium	0.55 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:07	7440-47-3	
Copper	34.5 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:07	7440-50-8	
Iron	3450 ug/L		50.0	1	01/25/12 14:03	01/30/12 12:07	7439-89-6	
Lead	3.0 ug/L		0.10	1	01/25/12 14:03	01/30/12 12:07	7439-92-1	
Magnesium	19500 ug/L		25.0	5	01/25/12 14:03	01/31/12 13:12	7439-95-4	
Manganese	1790 ug/L		10.0	20	01/25/12 14:03	01/30/12 12:11	7439-96-5	
Nickel	5.2 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:07	7440-02-0	
Potassium	1590 ug/L		20.0	1	01/25/12 14:03	01/30/12 12:07	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:07	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:07	7440-22-4	
Sodium	13000 ug/L		50.0	1	01/25/12 14:03	01/30/12 12:07	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 12:07	7440-28-0	
Total Hardness by 2340B	611000 ug/L		1420	20	01/25/12 14:03	01/30/12 12:11		
Vanadium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 12:07	7440-62-2	
Zinc	2500 ug/L		100	20	01/25/12 14:03	01/30/12 12:11	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	ND ug/L		4.0	1	01/25/12 14:00	01/27/12 01:33	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:33	7440-38-2	
Barium, Dissolved	18.4 ug/L		0.30	1	01/25/12 14:00	01/27/12 01:33	7440-39-3	
Cadmium, Dissolved	11.4 ug/L		0.080	1	01/25/12 14:00	01/27/12 01:33	7440-43-9	
Calcium, Dissolved	246000 ug/L		500	25	01/25/12 14:00	02/23/12 11:29	7440-70-2	
Chromium, Dissolved	1.2 ug/L		0.50	1	01/25/12 14:00	01/27/12 01:33	7440-47-3	
Copper, Dissolved	1.4 ug/L		0.50	1	01/25/12 14:00	01/27/12 01:33	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	01/25/12 14:00	01/27/12 01:33	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:33	7439-92-1	
Magnesium, Dissolved	20600 ug/L		5.0	1	01/25/12 14:00	01/27/12 01:33	7439-95-4	
Manganese, Dissolved	2230 ug/L		5.0	10	01/25/12 14:00	01/30/12 15:20	7439-96-5	
Nickel, Dissolved	5.5 ug/L		0.50	1	01/25/12 14:00	01/27/12 01:33	7440-02-0	
Potassium, Dissolved	1720 ug/L		20.0	1	01/25/12 14:00	01/27/12 01:33	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:33	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/27/12 01:33	7440-22-4	CH
Sodium, Dissolved	12900 ug/L		50.0	1	01/25/12 14:00	01/27/12 01:33	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:33	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/27/12 01:33	7440-62-2	
Zinc, Dissolved	2600 ug/L		50.0	10	01/25/12 14:00	01/30/12 15:20	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:14	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 34 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Sample: DR-5	Lab ID: 60114003005	Collected: 01/17/12 14:20	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 10:42	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	118	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Total as CaCO3	118	mg/L	20.0	1		01/31/12 10:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	988	mg/L	5.0	1		01/24/12 12:31		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	8.0	mg/L	5.0	1		01/23/12 12:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.6	Std. Units	0.10	1		01/20/12 15:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	612	mg/L	50.0	50		01/26/12 18:45	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:07	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-6	Lab ID: 60114003006	Collected: 01/17/12 14:45	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	162 ug/L		4.0	1	01/25/12 14:03	01/30/12 12:16	7429-90-5	
Arsenic	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:16	7440-38-2	
Barium	17.8 ug/L		0.30	1	01/25/12 14:03	01/30/12 12:16	7440-39-3	
Cadmium	11.6 ug/L		0.080	1	01/25/12 14:03	01/30/12 12:16	7440-43-9	
Calcium	230000 ug/L		400	20	01/25/12 14:03	01/30/12 12:21	7440-70-2	
Chromium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:16	7440-47-3	
Copper	27.2 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:16	7440-50-8	
Iron	2820 ug/L		50.0	1	01/25/12 14:03	01/30/12 12:16	7439-89-6	
Lead	2.3 ug/L		0.10	1	01/25/12 14:03	01/30/12 12:16	7439-92-1	
Magnesium	21400 ug/L		25.0	5	01/25/12 14:03	01/31/12 13:17	7439-95-4	
Manganese	1810 ug/L		10.0	20	01/25/12 14:03	01/30/12 12:21	7439-96-5	
Nickel	4.6 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:16	7440-02-0	
Potassium	1920 ug/L		20.0	1	01/25/12 14:03	01/30/12 12:16	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:16	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:16	7440-22-4	
Sodium	14300 ug/L		50.0	1	01/25/12 14:03	01/30/12 12:16	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 12:16	7440-28-0	
Total Hardness by 2340B	663000 ug/L		1420	20	01/25/12 14:03	01/30/12 12:21		
Zinc	2490 ug/L		100	20	01/25/12 14:03	01/30/12 12:21	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	6.4 ug/L		4.0	1	01/25/12 14:00	01/30/12 15:24	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:24	7440-38-2	
Barium, Dissolved	18.3 ug/L		0.30	1	01/25/12 14:00	01/30/12 15:24	7440-39-3	
Cadmium, Dissolved	10.5 ug/L		0.080	1	01/25/12 14:00	01/30/12 15:24	7440-43-9	
Calcium, Dissolved	252000 ug/L		500	25	01/25/12 14:00	02/23/12 11:34	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:24	7440-47-3	
Copper, Dissolved	1.8 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:24	7440-50-8	
Iron, Dissolved	90.5 ug/L		50.0	1	01/25/12 14:00	01/30/12 15:24	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:24	7439-92-1	
Magnesium, Dissolved	27900 ug/L		50.0	10	01/25/12 14:00	01/30/12 15:29	7439-95-4	
Manganese, Dissolved	2250 ug/L		5.0	10	01/25/12 14:00	01/30/12 15:29	7439-96-5	
Nickel, Dissolved	4.7 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:24	7440-02-0	
Potassium, Dissolved	2040 ug/L		20.0	1	01/25/12 14:00	01/30/12 15:24	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:24	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:24	7440-22-4	
Sodium, Dissolved	14600 ug/L		50.0	1	01/25/12 14:00	01/30/12 15:24	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:24	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:24	7440-62-2	
Zinc, Dissolved	2730 ug/L		50.0	10	01/25/12 14:00	01/30/12 15:29	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:17	7439-97-6	
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND ug/L		0.20	1	01/25/12 13:58	02/01/12 10:44	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 36 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-6	Lab ID: 60114003006	Collected: 01/17/12 14:45	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	120	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Total as CaCO3	120	mg/L	20.0	1		01/31/12 10:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1010	mg/L	5.0	1		01/24/12 12:31		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	7.0	mg/L	5.0	1		01/23/12 12:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		01/20/12 15:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	619	mg/L	50.0	50		01/26/12 18:59	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:09	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-7	Lab ID: 60114003007	Collected: 01/17/12 15:00	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	30.6 ug/L		4.0	1	01/25/12 14:03	01/30/12 11:44	7429-90-5	
Arsenic	0.80 ug/L		0.50	1	01/25/12 14:03	01/30/12 11:44	7440-38-2	
Barium	59.1 ug/L		0.30	1	01/25/12 14:03	01/30/12 11:44	7440-39-3	
Cadmium	1.4 ug/L		0.080	1	01/25/12 14:03	01/30/12 11:44	7440-43-9	
Calcium	129000 ug/L		200	10	01/25/12 14:03	01/26/12 22:20	7440-70-2	
Chromium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 11:44	7440-47-3	
Copper	3.6 ug/L		0.50	1	01/25/12 14:03	01/30/12 11:44	7440-50-8	
Iron	498 ug/L		50.0	1	01/25/12 14:03	01/30/12 11:44	7439-89-6	
Lead	0.35 ug/L		0.10	1	01/25/12 14:03	01/30/12 11:44	7439-92-1	
Magnesium	12200 ug/L		5.0	1	01/25/12 14:03	01/30/12 11:44	7439-95-4	
Manganese	396 ug/L		0.50	1	01/25/12 14:03	01/30/12 11:44	7439-96-5	
Nickel	0.78 ug/L		0.50	1	01/25/12 14:03	01/30/12 11:44	7440-02-0	
Potassium	1600 ug/L		20.0	1	01/25/12 14:03	01/30/12 11:44	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 11:44	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 11:44	7440-22-4	
Sodium	6200 ug/L		50.0	1	01/25/12 14:03	01/30/12 11:44	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 11:44	7440-28-0	
Total Hardness by 2340B	373000 ug/L		710	10	01/25/12 14:03	01/26/12 22:20		
Vanadium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 11:44	7440-62-2	
Zinc	280 ug/L		5.0	1	01/25/12 14:03	01/30/12 11:44	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	ND ug/L		4.0	1	01/25/12 14:00	01/30/12 15:52	7429-90-5	
Arsenic, Dissolved	0.61 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:52	7440-38-2	
Barium, Dissolved	53.9 ug/L		0.30	1	01/25/12 14:00	01/30/12 15:52	7440-39-3	
Cadmium, Dissolved	0.98 ug/L		0.080	1	01/25/12 14:00	01/30/12 15:52	7440-43-9	
Calcium, Dissolved	105000 ug/L		100	5	01/25/12 14:00	02/23/12 11:38	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:52	7440-47-3	
Copper, Dissolved	0.81 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:52	7440-50-8	
Iron, Dissolved	108 ug/L		50.0	1	01/25/12 14:00	01/30/12 15:52	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:52	7439-92-1	
Magnesium, Dissolved	11100 ug/L		5.0	1	01/25/12 14:00	01/30/12 15:52	7439-95-4	
Manganese, Dissolved	348 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:52	7439-96-5	
Nickel, Dissolved	0.78 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:52	7440-02-0	
Potassium, Dissolved	1460 ug/L		20.0	1	01/25/12 14:00	01/30/12 15:52	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:52	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:52	7440-22-4	
Sodium, Dissolved	5700 ug/L		50.0	1	01/25/12 14:00	01/30/12 15:52	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:52	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:52	7440-62-2	
Zinc, Dissolved	225 ug/L		5.0	1	01/25/12 14:00	01/30/12 15:52	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:19	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 38 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-7	Lab ID: 60114003007	Collected: 01/17/12 15:00	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 10:46	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	148	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Total as CaCO3	148	mg/L	20.0	1		01/31/12 10:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	371	mg/L	5.0	1		01/24/12 12:31		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		01/23/12 12:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		01/20/12 15:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	164	mg/L	10.0	10		01/26/12 19:42	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:10	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-8	Lab ID: 60114003008	Collected: 01/17/12 10:40	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	486 ug/L		4.0	1	01/25/12 14:03	01/30/12 12:25	7429-90-5	
Arsenic	0.68 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:25	7440-38-2	
Barium	19.5 ug/L		0.30	1	01/25/12 14:03	01/30/12 12:25	7440-39-3	
Cadmium	15.4 ug/L		0.080	1	01/25/12 14:03	01/30/12 12:25	7440-43-9	
Calcium	256000 ug/L		400	20	01/25/12 14:03	01/30/12 12:30	7440-70-2	
Chromium	0.74 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:25	7440-47-3	
Copper	77.5 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:25	7440-50-8	
Iron	7520 ug/L		50.0	1	01/25/12 14:03	01/30/12 12:25	7439-89-6	
Lead	7.1 ug/L		0.10	1	01/25/12 14:03	01/30/12 12:25	7439-92-1	
Magnesium	20900 ug/L		25.0	5	01/25/12 14:03	01/31/12 13:22	7439-95-4	
Manganese	2350 ug/L		10.0	20	01/25/12 14:03	01/30/12 12:30	7439-96-5	
Nickel	5.4 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:25	7440-02-0	
Potassium	1520 ug/L		20.0	1	01/25/12 14:03	01/30/12 12:25	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:25	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:25	7440-22-4	
Sodium	12600 ug/L		50.0	1	01/25/12 14:03	01/30/12 12:25	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 12:25	7440-28-0	
Total Hardness by 2340B	726000 ug/L		1420	20	01/25/12 14:03	01/30/12 12:30		
Vanadium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 12:25	7440-62-2	
Zinc	3530 ug/L		100	20	01/25/12 14:03	01/30/12 12:30	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	19.9 ug/L		4.0	1	01/25/12 14:00	01/30/12 15:34	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:34	7440-38-2	
Barium, Dissolved	20.9 ug/L		0.30	1	01/25/12 14:00	01/30/12 15:34	7440-39-3	
Cadmium, Dissolved	15.3 ug/L		0.080	1	01/25/12 14:00	01/30/12 15:34	7440-43-9	
Calcium, Dissolved	225000 ug/L		200	10	01/25/12 14:00	01/30/12 15:38	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:34	7440-47-3	
Copper, Dissolved	6.7 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:34	7440-50-8	
Iron, Dissolved	2710 ug/L		50.0	1	01/25/12 14:00	01/30/12 15:34	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:34	7439-92-1	
Magnesium, Dissolved	21400 ug/L		5.0	1	01/25/12 14:00	01/30/12 15:34	7439-95-4	
Manganese, Dissolved	2040 ug/L		5.0	10	01/25/12 14:00	01/30/12 15:38	7439-96-5	
Nickel, Dissolved	5.8 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:34	7440-02-0	
Potassium, Dissolved	1620 ug/L		20.0	1	01/25/12 14:00	01/30/12 15:34	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:34	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:34	7440-22-4	
Sodium, Dissolved	14000 ug/L		50.0	1	01/25/12 14:00	01/30/12 15:34	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:34	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:34	7440-62-2	
Zinc, Dissolved	2900 ug/L		50.0	10	01/25/12 14:00	01/30/12 15:38	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:21	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 40 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-8	Lab ID: 60114003008	Collected: 01/17/12 10:40	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 10:53	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	120	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Total as CaCO3	120	mg/L	20.0	1		01/31/12 10:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1020	mg/L	5.0	1		01/24/12 12:31		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	16.0	mg/L	5.0	1		01/23/12 12:18		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.0	Std. Units	0.10	1		01/20/12 15:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	649	mg/L	50.0	50		01/26/12 19:56	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:11	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-4-SW	Lab ID: 60114003009	Collected: 01/17/12 15:45	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	34.1 ug/L		4.0	1	01/25/12 14:03	01/30/12 12:35	7429-90-5	
Arsenic	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:35	7440-38-2	
Barium	61.2 ug/L		0.30	1	01/25/12 14:03	01/30/12 12:35	7440-39-3	
Cadmium	1.1 ug/L		0.080	1	01/25/12 14:03	01/30/12 12:35	7440-43-9	
Calcium	110000 ug/L		100	5	01/25/12 14:03	01/31/12 13:26	7440-70-2	
Chromium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:35	7440-47-3	
Copper	2.0 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:35	7440-50-8	
Iron	286 ug/L		50.0	1	01/25/12 14:03	01/30/12 12:35	7439-89-6	
Lead	0.47 ug/L		0.10	1	01/25/12 14:03	01/30/12 12:35	7439-92-1	
Magnesium	13700 ug/L		25.0	5	01/25/12 14:03	01/31/12 13:26	7439-95-4	
Manganese	335 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:35	7439-96-5	
Nickel	0.83 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:35	7440-02-0	
Potassium	1320 ug/L		20.0	1	01/25/12 14:03	01/30/12 12:35	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:35	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:35	7440-22-4	
Sodium	7040 ug/L		50.0	1	01/25/12 14:03	01/30/12 12:35	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 12:35	7440-28-0	
Total Hardness by 2340B	331000 ug/L		355	5	01/25/12 14:03	01/31/12 13:26		
Vanadium	0.11 ug/L		0.10	1	01/25/12 14:03	01/30/12 12:35	7440-62-2	
Zinc	245 ug/L		5.0	1	01/25/12 14:03	01/30/12 12:35	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	8.0 ug/L		4.0	1	01/25/12 14:00	01/30/12 15:57	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:57	7440-38-2	
Barium, Dissolved	55.2 ug/L		0.30	1	01/25/12 14:00	01/30/12 15:57	7440-39-3	
Cadmium, Dissolved	0.95 ug/L		0.080	1	01/25/12 14:00	01/30/12 15:57	7440-43-9	
Calcium, Dissolved	97600 ug/L		100	5	01/25/12 14:00	02/23/12 12:01	7440-70-2	
Chromium, Dissolved	0.69 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:57	7440-47-3	
Copper, Dissolved	0.75 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:57	7440-50-8	
Iron, Dissolved	60.3 ug/L		50.0	1	01/25/12 14:00	01/30/12 15:57	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:57	7439-92-1	
Magnesium, Dissolved	10200 ug/L		5.0	1	01/25/12 14:00	01/30/12 15:57	7439-95-4	
Manganese, Dissolved	290 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:57	7439-96-5	
Nickel, Dissolved	1.1 ug/L		0.50	1	01/25/12 14:00	01/30/12 15:57	7440-02-0	
Potassium, Dissolved	1210 ug/L		20.0	1	01/25/12 14:00	01/30/12 15:57	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:57	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 15:57	7440-22-4	
Sodium, Dissolved	6440 ug/L		50.0	1	01/25/12 14:00	01/30/12 15:57	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:57	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 15:57	7440-62-2	
Zinc, Dissolved	208 ug/L		5.0	1	01/25/12 14:00	01/30/12 15:57	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:23	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 42 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-4-SW	Lab ID: 60114003009	Collected: 01/17/12 15:45	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 10:55	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	146	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Total as CaCO3	146	mg/L	20.0	1		01/31/12 10:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	356	mg/L	5.0	1		01/24/12 12:32		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		01/23/12 12:18		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		01/20/12 15:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	134	mg/L	10.0	10		01/26/12 20:10	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:11	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-G	Lab ID: 60114003010	Collected: 01/17/12 16:15	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	12.1 ug/L		4.0	1	01/25/12 14:03	01/30/12 12:39	7429-90-5	
Arsenic	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:39	7440-38-2	
Barium	90.1 ug/L		0.30	1	01/25/12 14:03	01/30/12 12:39	7440-39-3	
Cadmium	0.95 ug/L		0.080	1	01/25/12 14:03	01/30/12 12:39	7440-43-9	
Calcium	121000 ug/L		200	10	01/25/12 14:03	01/26/12 22:58	7440-70-2	
Chromium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:39	7440-47-3	
Copper	0.87 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:39	7440-50-8	
Iron	79.3 ug/L		50.0	1	01/25/12 14:03	01/30/12 12:39	7439-89-6	
Lead	0.19 ug/L		0.10	1	01/25/12 14:03	01/30/12 12:39	7439-92-1	
Magnesium	14300 ug/L		25.0	5	01/25/12 14:03	01/31/12 13:31	7439-95-4	
Manganese	232 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:39	7439-96-5	
Nickel	0.70 ug/L		0.50	1	01/25/12 14:03	01/30/12 12:39	7440-02-0	
Potassium	1330 ug/L		20.0	1	01/25/12 14:03	01/30/12 12:39	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:39	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 12:39	7440-22-4	
Sodium	7480 ug/L		50.0	1	01/25/12 14:03	01/30/12 12:39	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 12:39	7440-28-0	
Total Hardness by 2340B	361000 ug/L		710	10	01/25/12 14:03	01/26/12 22:58		
Vanadium	0.12 ug/L		0.10	1	01/25/12 14:03	01/30/12 12:39	7440-62-2	
Zinc	227 ug/L		5.0	1	01/25/12 14:03	01/30/12 12:39	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	4.8 ug/L		4.0	1	01/25/12 14:00	01/30/12 16:02	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 16:02	7440-38-2	
Barium, Dissolved	72.4 ug/L		0.30	1	01/25/12 14:00	01/30/12 16:02	7440-39-3	
Cadmium, Dissolved	0.72 ug/L		0.080	1	01/25/12 14:00	01/30/12 16:02	7440-43-9	
Calcium, Dissolved	83700 ug/L		100	5	01/25/12 14:00	02/23/12 12:06	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 16:02	7440-47-3	
Copper, Dissolved	0.57 ug/L		0.50	1	01/25/12 14:00	01/30/12 16:02	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	01/25/12 14:00	01/30/12 16:02	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 16:02	7439-92-1	
Magnesium, Dissolved	10000 ug/L		5.0	1	01/25/12 14:00	01/30/12 16:02	7439-95-4	
Manganese, Dissolved	178 ug/L		0.50	1	01/25/12 14:00	01/30/12 16:02	7439-96-5	
Nickel, Dissolved	0.77 ug/L		0.50	1	01/25/12 14:00	01/30/12 16:02	7440-02-0	
Potassium, Dissolved	1100 ug/L		20.0	1	01/25/12 14:00	01/30/12 16:02	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 16:02	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 16:02	7440-22-4	
Sodium, Dissolved	6010 ug/L		50.0	1	01/25/12 14:00	01/30/12 16:02	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 16:02	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 16:02	7440-62-2	
Zinc, Dissolved	172 ug/L		5.0	1	01/25/12 14:00	01/30/12 16:02	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:25	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 44 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: DR-G	Lab ID: 60114003010	Collected: 01/17/12 16:15	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 10:57	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	160	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Total as CaCO3	160	mg/L	20.0	1		01/31/12 10:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	337	mg/L	5.0	1		01/24/12 12:32		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		01/23/12 12:18		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.8	Std. Units	0.10	1		01/20/12 15:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	125	mg/L	10.0	10		01/26/12 20:25	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:14	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: FB	Lab ID: 60114003011	Collected: 01/17/12 10:45	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	ND ug/L		4.0	1	01/25/12 14:03	01/31/12 13:36	7429-90-5	
Arsenic	ND ug/L		0.50	1	01/25/12 14:03	01/31/12 13:36	7440-38-2	
Barium	ND ug/L		0.30	1	01/25/12 14:03	01/31/12 13:36	7440-39-3	
Cadmium	ND ug/L		0.080	1	01/25/12 14:03	01/31/12 13:36	7440-43-9	
Calcium	ND ug/L		20.0	1	01/25/12 14:03	01/31/12 13:36	7440-70-2	
Chromium	ND ug/L		0.50	1	01/25/12 14:03	01/31/12 13:36	7440-47-3	
Copper	ND ug/L		0.50	1	01/25/12 14:03	01/31/12 13:36	7440-50-8	
Iron	ND ug/L		50.0	1	01/25/12 14:03	01/31/12 13:36	7439-89-6	
Lead	ND ug/L		0.10	1	01/25/12 14:03	01/31/12 13:36	7439-92-1	
Magnesium	ND ug/L		5.0	1	01/25/12 14:03	01/31/12 13:36	7439-95-4	
Manganese	ND ug/L		0.50	1	01/25/12 14:03	01/31/12 13:36	7439-96-5	
Nickel	ND ug/L		0.50	1	01/25/12 14:03	01/31/12 13:36	7440-02-0	
Potassium	ND ug/L		20.0	1	01/25/12 14:03	01/31/12 13:36	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/31/12 13:36	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/31/12 13:36	7440-22-4	
Sodium	1840 ug/L		50.0	1	01/25/12 14:03	01/31/12 13:36	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/31/12 13:36	7440-28-0	
Total Hardness by 2340B	ND ug/L		71.0	1	01/25/12 14:03	01/31/12 13:36		
Vanadium	ND ug/L		0.10	1	01/25/12 14:03	01/31/12 13:36	7440-62-2	
Zinc	ND ug/L		5.0	1	01/25/12 14:03	01/31/12 13:36	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	ND ug/L		4.0	1	01/25/12 14:00	01/30/12 16:06	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 16:06	7440-38-2	
Barium, Dissolved	ND ug/L		0.30	1	01/25/12 14:00	01/30/12 16:06	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	01/25/12 14:00	01/30/12 16:06	7440-43-9	
Calcium, Dissolved	ND ug/L		20.0	1	01/25/12 14:00	01/30/12 16:06	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 16:06	7440-47-3	
Copper, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 16:06	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	01/25/12 14:00	01/30/12 16:06	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 16:06	7439-92-1	
Magnesium, Dissolved	ND ug/L		5.0	1	01/25/12 14:00	01/30/12 16:06	7439-95-4	
Manganese, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 16:06	7439-96-5	
Nickel, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 16:06	7440-02-0	
Potassium, Dissolved	24.4 ug/L		20.0	1	01/25/12 14:00	01/30/12 16:06	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 16:06	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 16:06	7440-22-4	
Sodium, Dissolved	1860 ug/L		50.0	1	01/25/12 14:00	01/30/12 16:06	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 16:06	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 16:06	7440-62-2	
Zinc, Dissolved	ND ug/L		5.0	1	01/25/12 14:00	01/30/12 16:06	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:31	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 46 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: FB	Lab ID: 60114003011	Collected: 01/17/12 10:45	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 10:59	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Total as CaCO3	ND	mg/L	20.0	1		01/31/12 10:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	ND	mg/L	5.0	1		01/24/12 12:32		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		01/23/12 12:18		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	5.8	Std. Units	0.10	1		01/20/12 15:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND	mg/L	1.0	1		01/26/12 20:53	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:14	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-1 SHALLOW	Lab ID: 60114003017	Collected: 01/18/12 11:15	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	2590 ug/L		4.0	1	01/25/12 14:03	01/30/12 14:22	7429-90-5	
Arsenic	1.9 ug/L		0.50	1	01/25/12 14:03	01/30/12 14:22	7440-38-2	
Barium	52.5 ug/L		0.30	1	01/25/12 14:03	01/30/12 14:22	7440-39-3	
Cadmium	0.51 ug/L		0.080	1	01/25/12 14:03	01/30/12 14:22	7440-43-9	
Calcium	215000 ug/L		400	20	01/25/12 14:03	01/30/12 14:26	7440-70-2	
Chromium	2.4 ug/L		0.50	1	01/25/12 14:03	01/30/12 14:22	7440-47-3	
Copper	8.0 ug/L		0.50	1	01/25/12 14:03	01/30/12 14:22	7440-50-8	
Iron	2810 ug/L		50.0	1	01/25/12 14:03	01/30/12 14:22	7439-89-6	
Lead	16.8 ug/L		0.10	1	01/25/12 14:03	01/30/12 14:22	7439-92-1	
Magnesium	21600 ug/L		100	20	01/25/12 14:03	01/30/12 14:26	7439-95-4	
Manganese	130 ug/L		0.50	1	01/25/12 14:03	01/30/12 14:22	7439-96-5	
Nickel	1.7 ug/L		0.50	1	01/25/12 14:03	01/30/12 14:22	7440-02-0	
Potassium	1930 ug/L		20.0	1	01/25/12 14:03	01/30/12 14:22	7440-09-7	
Selenium	16.1 ug/L		0.50	1	01/25/12 14:03	01/30/12 14:22	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 14:22	7440-22-4	
Sodium	12100 ug/L		50.0	1	01/25/12 14:03	01/30/12 14:22	7440-23-5	
Thallium	0.12 ug/L		0.10	1	01/25/12 14:03	01/30/12 14:22	7440-28-0	
Total Hardness by 2340B	625000 ug/L		1420	20	01/25/12 14:03	01/30/12 14:26		
Vanadium	3.6 ug/L		0.10	1	01/25/12 14:03	01/30/12 14:22	7440-62-2	
Zinc	71.5 ug/L		5.0	1	01/25/12 14:03	01/30/12 14:22	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	4.1 ug/L		4.0	1	01/25/12 14:00	01/30/12 17:02	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:02	7440-38-2	
Barium, Dissolved	19.7 ug/L		0.30	1	01/25/12 14:00	01/30/12 17:02	7440-39-3	
Cadmium, Dissolved	0.28 ug/L		0.080	1	01/25/12 14:00	01/30/12 17:02	7440-43-9	
Calcium, Dissolved	222000 ug/L		500	25	01/25/12 14:00	02/22/12 18:12	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:02	7440-47-3	
Copper, Dissolved	0.82 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:02	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	01/25/12 14:00	01/30/12 17:02	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:02	7439-92-1	
Magnesium, Dissolved	21800 ug/L		5.0	1	01/25/12 14:00	01/30/12 17:02	7439-95-4	
Manganese, Dissolved	2.2 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:02	7439-96-5	
Nickel, Dissolved	0.74 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:02	7440-02-0	
Potassium, Dissolved	1300 ug/L		20.0	1	01/25/12 14:00	01/30/12 17:02	7440-09-7	
Selenium, Dissolved	14.9 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:02	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:02	7440-22-4	
Sodium, Dissolved	11800 ug/L		50.0	1	01/25/12 14:00	01/30/12 17:02	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:02	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:02	7440-62-2	
Zinc, Dissolved	42.6 ug/L		5.0	1	01/25/12 14:00	01/30/12 17:02	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:48	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 58 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-1 SHALLOW	Lab ID: 60114003017	Collected: 01/18/12 11:15	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 11:15	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	92.0	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		01/31/12 10:00		
Alkalinity, Total as CaCO3	92.0	mg/L	20.0	1		01/31/12 10:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	961	mg/L	5.0	1		01/25/12 10:26		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	102	mg/L	5.0	1		01/24/12 14:11		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		01/20/12 15:30		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	653	mg/L	50.0	50		01/26/12 22:47	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:22	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-1 DEEP	Lab ID: 60114003018	Collected: 01/18/12 11:25	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	53.1 ug/L		4.0	1	01/25/12 14:03	01/27/12 00:27	7429-90-5	
Arsenic	ND ug/L		0.50	1	01/25/12 14:03	01/27/12 00:27	7440-38-2	
Barium	14.0 ug/L		0.30	1	01/25/12 14:03	01/27/12 00:27	7440-39-3	
Cadmium	2.1 ug/L		0.080	1	01/25/12 14:03	01/27/12 00:27	7440-43-9	
Calcium	232000 ug/L		400	20	01/25/12 14:03	01/30/12 14:31	7440-70-2	
Chromium	0.73 ug/L		0.50	1	01/25/12 14:03	01/27/12 00:27	7440-47-3	
Copper	3.3 ug/L		0.50	1	01/25/12 14:03	01/27/12 00:27	7440-50-8	
Iron	167 ug/L		50.0	1	01/25/12 14:03	01/27/12 00:27	7439-89-6	
Lead	2.2 ug/L		0.10	1	01/25/12 14:03	01/27/12 00:27	7439-92-1	
Magnesium	20100 ug/L		5.0	1	01/25/12 14:03	01/27/12 00:27	7439-95-4	
Manganese	14.0 ug/L		0.50	1	01/25/12 14:03	01/27/12 00:27	7439-96-5	
Nickel	0.74 ug/L		0.50	1	01/25/12 14:03	01/27/12 00:27	7440-02-0	
Potassium	1350 ug/L		20.0	1	01/25/12 14:03	01/27/12 00:27	7440-09-7	
Selenium	7.4 ug/L		0.50	1	01/25/12 14:03	01/27/12 00:27	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/27/12 00:27	7440-22-4	CH
Sodium	10400 ug/L		50.0	1	01/25/12 14:03	01/27/12 00:27	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/27/12 00:27	7440-28-0	
Total Hardness by 2340B	663000 ug/L		1420	20	01/25/12 14:03	01/30/12 14:31		
Vanadium	0.17 ug/L		0.10	1	01/25/12 14:03	01/27/12 00:27	7440-62-2	
Zinc	511 ug/L		100	20	01/25/12 14:03	01/30/12 14:31	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	ND ug/L		4.0	1	01/25/12 14:00	01/30/12 17:07	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:07	7440-38-2	
Barium, Dissolved	13.5 ug/L		0.30	1	01/25/12 14:00	01/30/12 17:07	7440-39-3	
Cadmium, Dissolved	1.9 ug/L		0.080	1	01/25/12 14:00	01/30/12 17:07	7440-43-9	
Calcium, Dissolved	221000 ug/L		500	25	01/25/12 14:00	02/22/12 18:16	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:07	7440-47-3	
Copper, Dissolved	2.8 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:07	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	01/25/12 14:00	01/30/12 17:07	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:07	7439-92-1	
Magnesium, Dissolved	20300 ug/L		5.0	1	01/25/12 14:00	01/30/12 17:07	7439-95-4	
Manganese, Dissolved	3.4 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:07	7439-96-5	
Nickel, Dissolved	0.68 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:07	7440-02-0	
Potassium, Dissolved	1300 ug/L		20.0	1	01/25/12 14:00	01/30/12 17:07	7440-09-7	
Selenium, Dissolved	7.9 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:07	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:07	7440-22-4	
Sodium, Dissolved	10200 ug/L		50.0	1	01/25/12 14:00	01/30/12 17:07	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:07	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:07	7440-62-2	
Zinc, Dissolved	450 ug/L		5.0	1	01/25/12 14:00	01/30/12 17:07	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:50	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 60 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-1 DEEP	Lab ID: 60114003018	Collected: 01/18/12 11:25	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 11:17	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	92.0	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Total as CaCO3	92.0	mg/L	20.0	1		02/01/12 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	940	mg/L	5.0	1		01/25/12 10:26		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	5.0	mg/L	5.0	1		01/24/12 14:12		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		01/20/12 15:45		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	621	mg/L	50.0	50		01/26/12 23:01	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/25/12 16:23	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-2 DEEP	Lab ID: 60114003019	Collected: 01/18/12 11:45	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	482 ug/L		4.0	1	01/25/12 14:03	01/30/12 13:35	7429-90-5	
Arsenic	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 13:35	7440-38-2	
Barium	19.0 ug/L		0.30	1	01/25/12 14:03	01/30/12 13:35	7440-39-3	
Cadmium	1.1 ug/L		0.080	1	01/25/12 14:03	01/30/12 13:35	7440-43-9	
Calcium	221000 ug/L		400	20	01/25/12 14:03	01/30/12 13:44	7440-70-2	
Chromium	1.2 ug/L		0.50	1	01/25/12 14:03	01/30/12 13:35	7440-47-3	
Copper	2.7 ug/L		0.50	1	01/25/12 14:03	01/30/12 13:35	7440-50-8	
Iron	700 ug/L		50.0	1	01/25/12 14:03	01/30/12 13:35	7439-89-6	
Lead	3.8 ug/L		0.10	1	01/25/12 14:03	01/30/12 13:35	7439-92-1	
Magnesium	20400 ug/L		25.0	5	01/25/12 14:03	01/31/12 14:20	7439-95-4	
Manganese	15.4 ug/L		0.50	1	01/25/12 14:03	01/30/12 13:35	7439-96-5	
Nickel	0.69 ug/L		0.50	1	01/25/12 14:03	01/30/12 13:35	7440-02-0	
Potassium	1890 ug/L		20.0	1	01/25/12 14:03	01/30/12 13:35	7440-09-7	
Selenium	1.4 ug/L		0.50	1	01/25/12 14:03	01/30/12 13:35	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 13:35	7440-22-4	
Sodium	11600 ug/L		50.0	1	01/25/12 14:03	01/30/12 13:35	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 13:35	7440-28-0	
Total Hardness by 2340B	635000 ug/L		1420	20	01/25/12 14:03	01/30/12 13:44		
Vanadium	0.66 ug/L		0.10	1	01/25/12 14:03	01/30/12 13:35	7440-62-2	
Zinc	30.0 ug/L		5.0	1	01/25/12 14:03	01/30/12 13:35	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	7.3 ug/L		4.0	1	01/25/12 14:00	01/30/12 17:11	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:11	7440-38-2	
Barium, Dissolved	13.3 ug/L		0.30	1	01/25/12 14:00	01/30/12 17:11	7440-39-3	
Cadmium, Dissolved	1.0 ug/L		0.080	1	01/25/12 14:00	01/30/12 17:11	7440-43-9	
Calcium, Dissolved	215000 ug/L		500	25	01/25/12 14:00	02/22/12 18:21	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:11	7440-47-3	
Copper, Dissolved	0.99 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:11	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	01/25/12 14:00	01/30/12 17:11	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:11	7439-92-1	
Magnesium, Dissolved	21500 ug/L		5.0	1	01/25/12 14:00	01/30/12 17:11	7439-95-4	
Manganese, Dissolved	3.0 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:11	7439-96-5	
Nickel, Dissolved	0.55 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:11	7440-02-0	
Potassium, Dissolved	1800 ug/L		20.0	1	01/25/12 14:00	01/30/12 17:11	7440-09-7	
Selenium, Dissolved	1.4 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:11	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:11	7440-22-4	
Sodium, Dissolved	11400 ug/L		50.0	1	01/25/12 14:00	01/30/12 17:11	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:11	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:11	7440-62-2	
Zinc, Dissolved	20.6 ug/L		5.0	1	01/25/12 14:00	01/30/12 17:11	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:52	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 62 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-2 DEEP	Lab ID: 60114003019	Collected: 01/18/12 11:45	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 11:19	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	90.0	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Total as CaCO3	90.0	mg/L	20.0	1		02/01/12 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	935	mg/L	5.0	1		01/25/12 10:26		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	32.0	mg/L	5.0	1		01/24/12 14:12		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		01/20/12 15:45		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	648	mg/L	50.0	50		01/26/12 23:15	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/27/12 15:15	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-3 DEEP	Lab ID: 60114003020	Collected: 01/18/12 10:10	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	153 ug/L		4.0	1	01/25/12 14:03	01/30/12 14:36	7429-90-5	
Arsenic	5.3 ug/L		0.50	1	01/25/12 14:03	01/30/12 14:36	7440-38-2	
Barium	20.1 ug/L		0.30	1	01/25/12 14:03	01/30/12 14:36	7440-39-3	
Cadmium	0.15 ug/L		0.080	1	01/25/12 14:03	01/30/12 14:36	7440-43-9	
Calcium	197000 ug/L		400	20	01/25/12 14:03	01/30/12 14:40	7440-70-2	
Chromium	0.61 ug/L		0.50	1	01/25/12 14:03	01/30/12 14:36	7440-47-3	
Copper	1.3 ug/L		0.50	1	01/25/12 14:03	01/30/12 14:36	7440-50-8	
Iron	23600 ug/L		1000	20	01/25/12 14:03	01/30/12 14:40	7439-89-6	
Lead	1.9 ug/L		0.10	1	01/25/12 14:03	01/30/12 14:36	7439-92-1	
Magnesium	21500 ug/L		5.0	1	01/25/12 14:03	01/30/12 14:36	7439-95-4	
Manganese	1140 ug/L		10.0	20	01/25/12 14:03	01/30/12 14:40	7439-96-5	
Nickel	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 14:36	7440-02-0	
Potassium	1880 ug/L		20.0	1	01/25/12 14:03	01/30/12 14:36	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 14:36	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 14:03	01/30/12 14:36	7440-22-4	
Sodium	9100 ug/L		50.0	1	01/25/12 14:03	01/30/12 14:36	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 14:03	01/30/12 14:36	7440-28-0	
Total Hardness by 2340B	580000 ug/L		1420	20	01/25/12 14:03	01/30/12 14:40		
Vanadium	0.46 ug/L		0.10	1	01/25/12 14:03	01/30/12 14:36	7440-62-2	
Zinc	132 ug/L		5.0	1	01/25/12 14:03	01/30/12 14:36	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	5.4 ug/L		4.0	1	01/25/12 14:00	01/30/12 17:16	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:16	7440-38-2	
Barium, Dissolved	16.5 ug/L		0.30	1	01/25/12 14:00	01/30/12 17:16	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	01/25/12 14:00	01/30/12 17:16	7440-43-9	
Calcium, Dissolved	216000 ug/L		500	25	01/25/12 14:00	02/22/12 18:26	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:16	7440-47-3	
Copper, Dissolved	0.67 ug/L		0.50	1	01/25/12 14:00	01/30/12 17:16	7440-50-8	
Iron, Dissolved	728 ug/L		50.0	1	01/25/12 14:00	01/30/12 17:16	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:16	7439-92-1	
Magnesium, Dissolved	23100 ug/L		25.0	5	01/25/12 14:00	01/30/12 17:25	7439-95-4	
Manganese, Dissolved	1230 ug/L		2.5	5	01/25/12 14:00	01/30/12 17:25	7439-96-5	M1
Nickel, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:16	7440-02-0	
Potassium, Dissolved	2050 ug/L		20.0	1	01/25/12 14:00	01/30/12 17:16	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:16	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 14:00	01/30/12 17:16	7440-22-4	
Sodium, Dissolved	9890 ug/L		50.0	1	01/25/12 14:00	01/30/12 17:16	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:16	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 14:00	01/30/12 17:16	7440-62-2	
Zinc, Dissolved	42.3 ug/L		5.0	1	01/25/12 14:00	01/30/12 17:16	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/25/12 13:55	01/31/12 14:54	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 64 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-3 DEEP	Lab ID: 60114003020	Collected: 01/18/12 10:10	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 13:58	02/01/12 11:21	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	90.0	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Total as CaCO3	90.0	mg/L	20.0	1		02/01/12 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	983	mg/L	5.0	1		01/25/12 10:26		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	52.0	mg/L	5.0	1		01/24/12 14:12		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		01/20/12 15:45		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	615	mg/L	50.0	50		01/26/12 23:30	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/27/12 15:18	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-4 SHALLOW	Lab ID: 60114003021	Collected: 01/18/12 10:45	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	22100 ug/L		4.0	1	01/25/12 08:50	01/26/12 04:42	7429-90-5	
Arsenic	14.2 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:42	7440-38-2	
Barium	552 ug/L		1.5	5	01/25/12 08:50	01/26/12 04:47	7440-39-3	
Cadmium	2.7 ug/L		0.080	1	01/25/12 08:50	01/26/12 04:42	7440-43-9	
Calcium	377000 ug/L		400	20	01/25/12 08:50	01/26/12 19:18	7440-70-2	
Chromium	21.5 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:42	7440-47-3	
Copper	103 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:42	7440-50-8	
Iron	26200 ug/L		250	5	01/25/12 08:50	01/26/12 04:47	7439-89-6	
Lead	93.8 ug/L		0.10	1	01/25/12 08:50	01/26/12 04:42	7439-92-1	
Magnesium	39200 ug/L		25.0	5	01/25/12 08:50	01/26/12 04:47	7439-95-4	
Manganese	3150 ug/L		10.0	20	01/25/12 08:50	01/26/12 19:18	7439-96-5	
Nickel	21.8 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:42	7440-02-0	
Potassium	8010 ug/L		20.0	1	01/25/12 08:50	01/26/12 04:42	7440-09-7	
Selenium	16.2 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:42	7782-49-2	
Silver	1.5 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:42	7440-22-4	
Sodium	12300 ug/L		50.0	1	01/25/12 08:50	01/26/12 04:42	7440-23-5	
Thallium	0.52 ug/L		0.10	1	01/25/12 08:50	01/26/12 04:42	7440-28-0	
Total Hardness by 2340B	1100000 ug/L		1420	20	01/25/12 08:50	01/26/12 19:18		
Vanadium	29.1 ug/L		0.10	1	01/25/12 08:50	01/26/12 04:42	7440-62-2	
Zinc	388 ug/L		5.0	1	01/25/12 08:50	01/26/12 04:42	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	28.3 ug/L		4.0	1	01/25/12 08:54	01/29/12 13:50	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	01/29/12 00:42	7440-38-2	
Barium, Dissolved	68.8 ug/L		0.30	1	01/25/12 08:54	01/29/12 13:50	7440-39-3	
Cadmium, Dissolved	1.2 ug/L		0.080	1	01/25/12 08:54	01/29/12 00:42	7440-43-9	
Calcium, Dissolved	274000 ug/L		400	20	01/25/12 08:54	01/29/12 13:54	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	01/29/12 13:50	7440-47-3	
Copper, Dissolved	2.6 ug/L		0.50	1	01/25/12 08:54	01/29/12 13:50	7440-50-8	
Iron, Dissolved	69.3 ug/L		50.0	1	01/25/12 08:54	01/29/12 00:42	7439-89-6	
Lead, Dissolved	0.34 ug/L		0.10	1	01/25/12 08:54	01/29/12 00:42	7439-92-1	
Magnesium, Dissolved	31200 ug/L		100	20	01/25/12 08:54	01/29/12 13:54	7439-95-4	
Manganese, Dissolved	2780 ug/L		10.0	20	01/25/12 08:54	01/29/12 13:54	7439-96-5	
Nickel, Dissolved	5.2 ug/L		0.50	1	01/25/12 08:54	01/29/12 00:42	7440-02-0	
Potassium, Dissolved	4190 ug/L		20.0	1	01/25/12 08:54	01/29/12 13:50	7440-09-7	
Selenium, Dissolved	13.7 ug/L		0.50	1	01/25/12 08:54	01/29/12 00:42	7782-49-2	
Silver, Dissolved	0.74 ug/L		0.50	1	01/25/12 08:54	02/01/12 12:12	7440-22-4	
Sodium, Dissolved	13200 ug/L		50.0	1	01/25/12 08:54	01/29/12 00:42	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	01/29/12 13:50	7440-28-0	
Vanadium, Dissolved	0.17 ug/L		0.10	1	01/25/12 08:54	01/29/12 13:50	7440-62-2	
Zinc, Dissolved	95.1 ug/L		5.0	1	01/25/12 08:54	01/29/12 13:50	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/26/12 10:12	01/31/12 13:27	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 66 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-4 SHALLOW	Lab ID: 60114003021	Collected: 01/18/12 10:45	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 08:48	01/30/12 10:56	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	372	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Total as CaCO3	372	mg/L	20.0	1		02/01/12 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1030	mg/L	5.0	1		01/25/12 10:27		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	1810	mg/L	5.0	1		01/24/12 14:12		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.8	Std. Units	0.10	1		01/20/12 15:45		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	470	mg/L	50.0	50		01/27/12 00:12	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/27/12 15:20	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-4 DEEP	Lab ID: 60114003022	Collected: 01/18/12 10:55	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	248 ug/L		4.0	1	01/25/12 08:50	01/26/12 04:51	7429-90-5	
Arsenic	0.56 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:51	7440-38-2	
Barium	20.8 ug/L		0.30	1	01/25/12 08:50	01/26/12 04:51	7440-39-3	
Cadmium	2.8 ug/L		0.080	1	01/25/12 08:50	01/26/12 04:51	7440-43-9	
Calcium	401000 ug/L		400	20	01/25/12 08:50	01/26/12 19:22	7440-70-2	
Chromium	0.78 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:51	7440-47-3	
Copper	7.3 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:51	7440-50-8	
Iron	422 ug/L		50.0	1	01/25/12 08:50	01/26/12 04:51	7439-89-6	
Lead	2.5 ug/L		0.10	1	01/25/12 08:50	01/26/12 04:51	7439-92-1	
Magnesium	35500 ug/L		25.0	5	01/25/12 08:50	01/26/12 04:56	7439-95-4	
Manganese	71.6 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:51	7439-96-5	
Nickel	1.3 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:51	7440-02-0	
Potassium	2420 ug/L		20.0	1	01/25/12 08:50	01/26/12 04:51	7440-09-7	
Selenium	26.5 ug/L		0.50	1	01/25/12 08:50	01/26/12 04:51	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 08:50	01/26/12 04:51	7440-22-4	
Sodium	7680 ug/L		50.0	1	01/25/12 08:50	01/26/12 04:51	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 08:50	01/26/12 04:51	7440-28-0	
Total Hardness by 2340B	1150000 ug/L		1420	20	01/25/12 08:50	01/26/12 19:22		
Vanadium	0.41 ug/L		0.10	1	01/25/12 08:50	01/26/12 04:51	7440-62-2	
Zinc	442 ug/L		5.0	1	01/25/12 08:50	01/26/12 04:51	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	57.3 ug/L		4.0	1	01/25/12 08:54	01/29/12 13:57	7429-90-5	
Arsenic, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	01/29/12 00:49	7440-38-2	
Barium, Dissolved	19.6 ug/L		0.30	1	01/25/12 08:54	01/29/12 13:57	7440-39-3	
Cadmium, Dissolved	2.4 ug/L		0.080	1	01/25/12 08:54	01/29/12 00:49	7440-43-9	
Calcium, Dissolved	317000 ug/L		500	25	01/25/12 08:54	02/23/12 11:06	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	01/29/12 13:57	7440-47-3	
Copper, Dissolved	4.9 ug/L		0.50	1	01/25/12 08:54	01/29/12 13:57	7440-50-8	
Iron, Dissolved	ND ug/L		50.0	1	01/25/12 08:54	01/29/12 00:49	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	01/29/12 00:49	7439-92-1	
Magnesium, Dissolved	34800 ug/L		125	25	01/25/12 08:54	02/23/12 11:06	7439-95-4	
Manganese, Dissolved	41.6 ug/L		0.50	1	01/25/12 08:54	01/29/12 13:57	7439-96-5	
Nickel, Dissolved	1.1 ug/L		0.50	1	01/25/12 08:54	01/29/12 00:49	7440-02-0	
Potassium, Dissolved	2510 ug/L		20.0	1	01/25/12 08:54	01/29/12 13:57	7440-09-7	
Selenium, Dissolved	24.9 ug/L		0.50	1	01/25/12 08:54	01/29/12 00:49	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	02/01/12 12:19	7440-22-4	
Sodium, Dissolved	7550 ug/L		50.0	1	01/25/12 08:54	01/29/12 00:49	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	01/29/12 13:57	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	01/29/12 13:57	7440-62-2	
Zinc, Dissolved	391 ug/L		5.0	1	01/25/12 08:54	01/29/12 13:57	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/26/12 10:12	01/31/12 13:33	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 68 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-4 DEEP	Lab ID: 60114003022	Collected: 01/18/12 10:55	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 08:48	01/30/12 11:10	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	452	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Total as CaCO3	452	mg/L	20.0	1		02/01/12 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1040	mg/L	5.0	1		01/25/12 10:27		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	17.0	mg/L	5.0	1		01/24/12 14:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.6	Std. Units	0.10	1		01/20/12 15:45		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	476	mg/L	50.0	50		01/27/12 01:23	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/27/12 15:23	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-5 SHALLOW	Lab ID: 60114003023	Collected: 01/18/12 09:30	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	6480 ug/L		4.0	1	01/25/12 08:50	01/26/12 05:01	7429-90-5	
Arsenic	103 ug/L		0.50	1	01/25/12 08:50	01/26/12 05:01	7440-38-2	
Barium	107 ug/L		0.30	1	01/25/12 08:50	01/26/12 05:01	7440-39-3	
Cadmium	27.9 ug/L		0.080	1	01/25/12 08:50	01/26/12 05:01	7440-43-9	
Calcium	523000 ug/L		2000	100	01/25/12 08:50	01/27/12 15:49	7440-70-2	
Chromium	3.1 ug/L		0.50	1	01/25/12 08:50	01/26/12 05:01	7440-47-3	
Copper	30.7 ug/L		0.50	1	01/25/12 08:50	01/26/12 05:01	7440-50-8	
Iron	180000 ug/L		5000	100	01/25/12 08:50	01/27/12 15:49	7439-89-6	
Lead	309 ug/L		0.10	1	01/25/12 08:50	01/26/12 05:01	7439-92-1	
Magnesium	36700 ug/L		25.0	5	01/25/12 08:50	01/26/12 05:05	7439-95-4	
Manganese	10500 ug/L		50.0	100	01/25/12 08:50	01/27/12 15:49	7439-96-5	
Nickel	65.6 ug/L		0.50	1	01/25/12 08:50	01/26/12 05:01	7440-02-0	
Potassium	4340 ug/L		20.0	1	01/25/12 08:50	01/26/12 05:01	7440-09-7	
Selenium	2.0 ug/L		0.50	1	01/25/12 08:50	01/26/12 05:01	7782-49-2	
Silver	1.0 ug/L		0.50	1	01/25/12 08:50	01/26/12 05:01	7440-22-4	
Sodium	7170 ug/L		50.0	1	01/25/12 08:50	01/26/12 05:01	7440-23-5	
Thallium	0.39 ug/L		0.10	1	01/25/12 08:50	01/26/12 05:01	7440-28-0	
Total Hardness by 2340B	1460000 ug/L		7100	100	01/25/12 08:50	01/27/12 15:49		
Vanadium	4.9 ug/L		0.10	1	01/25/12 08:50	01/26/12 05:01	7440-62-2	
Zinc	21000 ug/L		500	100	01/25/12 08:50	01/27/12 15:49	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	2280 ug/L		4.0	1	01/25/12 08:54	01/29/12 14:04	7429-90-5	
Arsenic, Dissolved	95.2 ug/L		0.50	1	01/25/12 08:54	01/29/12 00:59	7440-38-2	
Barium, Dissolved	19.2 ug/L		0.30	1	01/25/12 08:54	01/29/12 14:04	7440-39-3	
Cadmium, Dissolved	15.3 ug/L		0.080	1	01/25/12 08:54	01/29/12 00:59	7440-43-9	
Calcium, Dissolved	390000 ug/L		2000	100	01/25/12 08:54	02/01/12 12:29	7440-70-2	
Chromium, Dissolved	0.69 ug/L		0.50	1	01/25/12 08:54	01/29/12 14:04	7440-47-3	
Copper, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	01/29/12 14:04	7440-50-8	
Iron, Dissolved	159000 ug/L		5000	100	01/25/12 08:54	01/29/12 01:06	7439-89-6	
Lead, Dissolved	76.3 ug/L		0.10	1	01/25/12 08:54	01/29/12 00:59	7439-92-1	
Magnesium, Dissolved	32600 ug/L		500	100	01/25/12 08:54	02/01/12 12:29	7439-95-4	
Manganese, Dissolved	9460 ug/L		50.0	100	01/25/12 08:54	02/01/12 12:29	7439-96-5	
Nickel, Dissolved	66.4 ug/L		0.50	1	01/25/12 08:54	01/29/12 00:59	7440-02-0	
Potassium, Dissolved	3360 ug/L		20.0	1	01/25/12 08:54	01/29/12 14:04	7440-09-7	
Selenium, Dissolved	2.2 ug/L		0.50	1	01/25/12 08:54	01/29/12 00:59	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	02/01/12 12:26	7440-22-4	
Sodium, Dissolved	7130 ug/L		50.0	1	01/25/12 08:54	01/29/12 00:59	7440-23-5	
Thallium, Dissolved	0.25 ug/L		0.10	1	01/25/12 08:54	01/29/12 14:04	7440-28-0	
Vanadium, Dissolved	0.12 ug/L		0.10	1	01/25/12 08:54	01/29/12 14:04	7440-62-2	
Zinc, Dissolved	19100 ug/L		500	100	01/25/12 08:54	02/01/12 12:29	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/26/12 10:12	01/31/12 13:35	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 70 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-5 SHALLOW	Lab ID: 60114003023	Collected: 01/18/12 09:30	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 08:48	01/30/12 11:17	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Total as CaCO3	ND	mg/L	20.0	1		02/01/12 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	2480	mg/L	5.0	1		01/25/12 10:27		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	318	mg/L	5.0	1		01/24/12 14:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	4.6	Std. Units	0.10	1		01/20/12 15:45		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	1850	mg/L	100	100		01/27/12 01:38	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/27/12 15:24	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-5 DEEP	Lab ID: 60114003024	Collected: 01/18/12 09:35	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	1760 ug/L		4.0	1	01/25/12 08:50	01/26/12 05:10	7429-90-5	
Arsenic	228 ug/L		0.50	1	01/25/12 08:50	01/26/12 05:10	7440-38-2	
Barium	15.2 ug/L		0.30	1	01/25/12 08:50	01/26/12 05:10	7440-39-3	
Cadmium	0.21 ug/L		0.080	1	01/25/12 08:50	01/26/12 05:10	7440-43-9	
Calcium	409000 ug/L		2000	100	01/25/12 08:50	01/27/12 15:54	7440-70-2	
Chromium	0.98 ug/L		0.50	1	01/25/12 08:50	01/26/12 05:10	7440-47-3	
Copper	3.8 ug/L		0.50	1	01/25/12 08:50	01/26/12 05:10	7440-50-8	
Iron	156000 ug/L		5000	100	01/25/12 08:50	01/27/12 15:54	7439-89-6	
Lead	34.4 ug/L		0.10	1	01/25/12 08:50	01/26/12 05:10	7439-92-1	
Magnesium	83400 ug/L		25.0	5	01/25/12 08:50	01/26/12 05:24	7439-95-4	
Manganese	16900 ug/L		50.0	100	01/25/12 08:50	01/27/12 15:54	7439-96-5	
Nickel	20.4 ug/L		0.50	1	01/25/12 08:50	01/26/12 05:10	7440-02-0	
Potassium	10400 ug/L		20.0	1	01/25/12 08:50	01/26/12 05:10	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 08:50	01/26/12 05:10	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 08:50	01/26/12 05:10	7440-22-4	
Sodium	9620 ug/L		50.0	1	01/25/12 08:50	01/26/12 05:10	7440-23-5	
Thallium	0.11 ug/L		0.10	1	01/25/12 08:50	01/26/12 05:10	7440-28-0	
Total Hardness by 2340B	1370000 ug/L		7100	100	01/25/12 08:50	01/27/12 15:54		
Vanadium	0.27 ug/L		0.10	1	01/25/12 08:50	01/26/12 05:10	7440-62-2	
Zinc	20800 ug/L		500	100	01/25/12 08:50	01/27/12 15:54	7440-66-6	M1
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	1400 ug/L		4.0	1	01/25/12 08:54	01/29/12 01:20	7429-90-5	
Arsenic, Dissolved	219 ug/L		0.50	1	01/25/12 08:54	01/29/12 01:20	7440-38-2	
Barium, Dissolved	12.2 ug/L		0.30	1	01/25/12 08:54	01/29/12 01:20	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	01/25/12 08:54	01/29/12 01:20	7440-43-9	
Calcium, Dissolved	331000 ug/L		2000	100	01/25/12 08:54	02/01/12 12:36	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	02/01/12 12:33	7440-47-3	
Copper, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	02/01/12 12:33	7440-50-8	
Iron, Dissolved	133000 ug/L		500	10	01/25/12 08:54	01/29/12 01:23	7439-89-6	
Lead, Dissolved	0.23 ug/L		0.10	1	01/25/12 08:54	01/29/12 01:20	7439-92-1	
Magnesium, Dissolved	86600 ug/L		500	100	01/25/12 08:54	02/01/12 12:36	7439-95-4	
Manganese, Dissolved	17300 ug/L		50.0	100	01/25/12 08:54	02/01/12 12:36	7439-96-5	
Nickel, Dissolved	20.8 ug/L		0.50	1	01/25/12 08:54	01/29/12 01:20	7440-02-0	
Potassium, Dissolved	9820 ug/L		20.0	1	01/25/12 08:54	01/29/12 01:20	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	01/29/12 01:20	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	02/01/12 12:33	7440-22-4	
Sodium, Dissolved	9300 ug/L		50.0	1	01/25/12 08:54	01/29/12 01:20	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	02/01/12 12:33	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	02/01/12 12:33	7440-62-2	
Zinc, Dissolved	21200 ug/L		500	100	01/25/12 08:54	02/01/12 12:36	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/26/12 10:12	01/31/12 13:41	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 72 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-5 DEEP	Lab ID: 60114003024	Collected: 01/18/12 09:35	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 08:48	01/30/12 11:19	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	22.0	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Total as CaCO3	22.0	mg/L	20.0	1		02/01/12 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	2220	mg/L	5.0	1		01/25/12 10:27		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	55.0	mg/L	5.0	1		01/24/12 14:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.4	Std. Units	0.10	1		01/20/12 15:45		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	1260	mg/L	100	100		01/27/12 01:52	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/27/12 15:24	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-6 SHALLOW	Lab ID: 60114003025	Collected: 01/18/12 09:00	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	36700 ug/L		20.0	5	01/25/12 08:51	01/26/12 05:43	7429-90-5	
Arsenic	125 ug/L		0.50	1	01/25/12 08:51	01/26/12 05:38	7440-38-2	
Barium	381 ug/L		0.30	1	01/25/12 08:51	01/26/12 05:38	7440-39-3	
Cadmium	19.8 ug/L		0.080	1	01/25/12 08:51	01/26/12 05:38	7440-43-9	
Calcium	426000 ug/L		1000	50	01/25/12 08:51	01/27/12 15:59	7440-70-2	
Chromium	29.4 ug/L		0.50	1	01/25/12 08:51	01/26/12 05:38	7440-47-3	
Copper	156 ug/L		0.50	1	01/25/12 08:51	01/26/12 05:38	7440-50-8	
Iron	118000 ug/L		2500	50	01/25/12 08:51	01/27/12 15:59	7439-89-6	
Lead	233 ug/L		0.10	1	01/25/12 08:51	01/26/12 05:38	7439-92-1	
Magnesium	73000 ug/L		25.0	5	01/25/12 08:51	01/26/12 05:43	7439-95-4	
Manganese	7720 ug/L		25.0	50	01/25/12 08:51	01/27/12 15:59	7439-96-5	
Nickel	30.9 ug/L		0.50	1	01/25/12 08:51	01/26/12 05:38	7440-02-0	
Potassium	17800 ug/L		20.0	1	01/25/12 08:51	01/26/12 05:38	7440-09-7	
Selenium	5.8 ug/L		0.50	1	01/25/12 08:51	01/26/12 05:38	7782-49-2	
Silver	1.7 ug/L		0.50	1	01/25/12 08:51	01/26/12 05:38	7440-22-4	
Sodium	7720 ug/L		50.0	1	01/25/12 08:51	01/26/12 05:38	7440-23-5	
Thallium	0.84 ug/L		0.10	1	01/25/12 08:51	01/26/12 05:38	7440-28-0	
Total Hardness by 2340B	1360000 ug/L		3550	50	01/25/12 08:51	01/27/12 15:59		
Vanadium	43.4 ug/L		0.10	1	01/25/12 08:51	01/26/12 05:38	7440-62-2	
Zinc	3820 ug/L		250	50	01/25/12 08:51	01/27/12 15:59	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	838 ug/L		4.0	1	01/25/12 08:54	01/29/12 01:30	7429-90-5	
Arsenic, Dissolved	43.0 ug/L		0.50	1	01/25/12 08:54	01/29/12 01:30	7440-38-2	
Barium, Dissolved	13.4 ug/L		0.30	1	01/25/12 08:54	01/29/12 01:30	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	01/25/12 08:54	01/29/12 01:30	7440-43-9	
Calcium, Dissolved	318000 ug/L		1000	50	01/25/12 08:54	02/01/12 12:54	7440-70-2	
Chromium, Dissolved	0.62 ug/L		0.50	1	01/25/12 08:54	02/01/12 12:50	7440-47-3	
Copper, Dissolved	0.54 ug/L		0.50	1	01/25/12 08:54	02/01/12 12:50	7440-50-8	
Iron, Dissolved	63500 ug/L		500	10	01/25/12 08:54	01/29/12 01:33	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	01/29/12 01:30	7439-92-1	
Magnesium, Dissolved	58200 ug/L		250	50	01/25/12 08:54	02/01/12 12:54	7439-95-4	
Manganese, Dissolved	6740 ug/L		25.0	50	01/25/12 08:54	02/01/12 12:54	7439-96-5	
Nickel, Dissolved	2.5 ug/L		0.50	1	01/25/12 08:54	01/29/12 01:30	7440-02-0	
Potassium, Dissolved	10500 ug/L		20.0	1	01/25/12 08:54	01/29/12 01:30	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	01/29/12 01:30	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	02/01/12 12:50	7440-22-4	
Sodium, Dissolved	5820 ug/L		50.0	1	01/25/12 08:54	01/29/12 01:30	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	02/01/12 12:50	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	02/01/12 12:50	7440-62-2	
Zinc, Dissolved	881 ug/L		250	50	01/25/12 08:54	02/01/12 12:54	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/26/12 10:12	01/31/12 13:43	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 74 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-6 SHALLOW	Lab ID: 60114003025	Collected: 01/18/12 09:00	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 08:48	01/30/12 11:21	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	44.0	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Total as CaCO3	44.0	mg/L	20.0	1		02/01/12 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	1760	mg/L	5.0	1		01/25/12 10:27		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	616	mg/L	5.0	1		01/24/12 14:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.4	Std. Units	0.10	1		01/20/12 15:45		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	1210	mg/L	100	100		01/27/12 02:06	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/27/12 15:27	57-12-5	

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-6 DEEP	Lab ID: 60114003026	Collected: 01/18/12 09:10	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Aluminum	544 ug/L		4.0	1	01/25/12 08:51	01/26/12 05:48	7429-90-5	
Arsenic	48.9 ug/L		0.50	1	01/25/12 08:51	01/26/12 05:48	7440-38-2	
Barium	18.7 ug/L		0.30	1	01/25/12 08:51	01/26/12 05:48	7440-39-3	
Cadmium	0.094 ug/L		0.080	1	01/25/12 08:51	01/26/12 05:48	7440-43-9	
Calcium	364000 ug/L		400	20	01/25/12 08:51	01/26/12 19:41	7440-70-2	
Chromium	ND ug/L		0.50	1	01/25/12 08:51	01/26/12 05:48	7440-47-3	
Copper	0.87 ug/L		0.50	1	01/25/12 08:51	01/26/12 05:48	7440-50-8	
Iron	26800 ug/L		250	5	01/25/12 08:51	01/26/12 05:52	7439-89-6	
Lead	0.96 ug/L		0.10	1	01/25/12 08:51	01/26/12 05:48	7439-92-1	
Magnesium	38500 ug/L		25.0	5	01/25/12 08:51	01/26/12 05:52	7439-95-4	
Manganese	9560 ug/L		10.0	20	01/25/12 08:51	01/26/12 19:41	7439-96-5	
Nickel	1.7 ug/L		0.50	1	01/25/12 08:51	01/26/12 05:48	7440-02-0	
Potassium	6400 ug/L		20.0	1	01/25/12 08:51	01/26/12 05:48	7440-09-7	
Selenium	ND ug/L		0.50	1	01/25/12 08:51	01/26/12 05:48	7782-49-2	
Silver	ND ug/L		0.50	1	01/25/12 08:51	01/26/12 05:48	7440-22-4	
Sodium	7110 ug/L		50.0	1	01/25/12 08:51	01/26/12 05:48	7440-23-5	
Thallium	ND ug/L		0.10	1	01/25/12 08:51	01/26/12 05:48	7440-28-0	
Total Hardness by 2340B	1070000 ug/L		1420	20	01/25/12 08:51	01/26/12 19:41		
Vanadium	0.16 ug/L		0.10	1	01/25/12 08:51	01/26/12 05:48	7440-62-2	
Zinc	262 ug/L		5.0	1	01/25/12 08:51	01/26/12 05:48	7440-66-6	
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8							
Aluminum, Dissolved	389 ug/L		4.0	1	01/25/12 08:54	01/29/12 01:40	7429-90-5	
Arsenic, Dissolved	15.2 ug/L		0.50	1	01/25/12 08:54	01/29/12 01:40	7440-38-2	
Barium, Dissolved	15.3 ug/L		0.30	1	01/25/12 08:54	01/29/12 01:40	7440-39-3	
Cadmium, Dissolved	ND ug/L		0.080	1	01/25/12 08:54	01/29/12 01:40	7440-43-9	
Calcium, Dissolved	196000 ug/L		1000	50	01/25/12 08:54	02/01/12 13:00	7440-70-2	
Chromium, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	02/01/12 12:57	7440-47-3	
Copper, Dissolved	0.63 ug/L		0.50	1	01/25/12 08:54	02/01/12 12:57	7440-50-8	
Iron, Dissolved	15300 ug/L		50.0	1	01/25/12 08:54	01/29/12 01:40	7439-89-6	
Lead, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	01/29/12 01:40	7439-92-1	
Magnesium, Dissolved	34900 ug/L		250	50	01/25/12 08:54	02/01/12 13:00	7439-95-4	
Manganese, Dissolved	8200 ug/L		25.0	50	01/25/12 08:54	02/01/12 13:00	7439-96-5	
Nickel, Dissolved	1.6 ug/L		0.50	1	01/25/12 08:54	01/29/12 01:40	7440-02-0	
Potassium, Dissolved	6430 ug/L		20.0	1	01/25/12 08:54	01/29/12 01:40	7440-09-7	
Selenium, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	01/29/12 01:40	7782-49-2	
Silver, Dissolved	ND ug/L		0.50	1	01/25/12 08:54	02/01/12 12:57	7440-22-4	
Sodium, Dissolved	7110 ug/L		50.0	1	01/25/12 08:54	01/29/12 01:40	7440-23-5	
Thallium, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	02/01/12 12:57	7440-28-0	
Vanadium, Dissolved	ND ug/L		0.10	1	01/25/12 08:54	02/01/12 12:57	7440-62-2	
Zinc, Dissolved	198 ug/L		5.0	1	01/25/12 08:54	02/01/12 12:57	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1							
Mercury	ND ug/L		0.20	1	01/26/12 10:12	01/31/12 13:46	7439-97-6	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 76 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Sample: MW-6 DEEP	Lab ID: 60114003026	Collected: 01/18/12 09:10	Received: 01/20/12 08:50	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	01/25/12 08:48	01/30/12 11:23	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	160	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	20.0	1		02/01/12 13:00		
Alkalinity, Total as CaCO3	160	mg/L	20.0	1		02/01/12 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	3480	mg/L	5.0	1		01/25/12 10:27		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	35.0	mg/L	5.0	1		01/24/12 14:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.5	Std. Units	0.10	1		01/20/12 15:45		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	702	mg/L	50.0	50		01/27/12 02:20	14808-79-8	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E							
Cyanide	ND	mg/L	0.0050	1		01/27/12 15:27	57-12-5	

Appendix D
Laboratory QC Results

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch:	ICPM/30701	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET
Associated Lab Samples:	60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018, 60114003019, 60114003020		

METHOD BLANK: 1131434 Matrix: Water

Associated Lab Samples: 60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018, 60114003019, 60114003020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	4.0	01/26/12 20:47	
Arsenic	ug/L	ND	0.50	01/26/12 20:47	
Barium	ug/L	ND	0.30	01/26/12 20:47	
Cadmium	ug/L	ND	0.080	01/26/12 20:47	
Calcium	ug/L	ND	20.0	01/26/12 20:47	
Chromium	ug/L	ND	0.50	01/26/12 20:47	
Copper	ug/L	ND	0.50	01/26/12 20:47	
Iron	ug/L	ND	50.0	01/26/12 20:47	CH
Lead	ug/L	ND	0.10	01/26/12 20:47	
Magnesium	ug/L	ND	5.0	01/26/12 20:47	CH
Manganese	ug/L	ND	0.50	01/26/12 20:47	
Nickel	ug/L	ND	0.50	01/26/12 20:47	CH
Potassium	ug/L	ND	20.0	01/26/12 20:47	
Selenium	ug/L	ND	0.50	01/26/12 20:47	
Silver	ug/L	ND	0.50	01/26/12 20:47	CH
Sodium	ug/L	ND	50.0	01/26/12 20:47	CH
Thallium	ug/L	ND	0.10	01/26/12 20:47	
Total Hardness by 2340B	ug/L	ND	71.0	01/26/12 20:47	
Vanadium	ug/L	ND	0.10	01/26/12 20:47	CH
Zinc	ug/L	ND	5.0	01/26/12 20:47	

LABORATORY CONTROL SAMPLE: 1131435

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	80	77.7	97	85-115	
Arsenic	ug/L	80	86.3	108	85-115	
Barium	ug/L	80	80.6	101	85-115	
Cadmium	ug/L	80	87.9	110	85-115	
Calcium	ug/L	1000	981	98	85-115	
Chromium	ug/L	80	86.2	108	85-115	
Copper	ug/L	80	90.5	113	85-115	
Iron	ug/L	1000	998	100	85-115	
Lead	ug/L	80	87.0	109	85-115	
Magnesium	ug/L	1000	1030	103	85-115	
Manganese	ug/L	80	79.3	99	85-115	
Nickel	ug/L	80	84.5	106	85-115	
Potassium	ug/L	1000	984	98	85-115	
Selenium	ug/L	80	83.3	104	85-115	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 78 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

LABORATORY CONTROL SAMPLE: 1131435

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Silver	ug/L	80	83.3	104	85-115	
Sodium	ug/L	1000	1000	100	85-115	
Thallium	ug/L	80	88.4	110	85-115	
Total Hardness by 2340B	ug/L	6620	6700	101	85-115	
Vanadium	ug/L	80	77.2	97	85-115	
Zinc	ug/L	80	88.9	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1131436 1131437

Parameter	Units	60114003002 Result	MS Spike	MSD Spike	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Conc.	Conc.								
Aluminum	ug/L	12.6	80	80	98.0	96.8	107	105	70-130	1	20	
Arsenic	ug/L	ND	80	80	73.6	75.0	92	94	70-130	2	20	
Barium	ug/L	66.9	80	80	144	144	96	97	70-130	.3	20	
Cadmium	ug/L	ND	80	80	76.0	77.1	95	96	70-130	1	20	
Calcium	ug/L	72100	1000	1000	57000	56900	-1500	-1520	70-130	.3	20	M1
Chromium	ug/L	ND	80	80	78.2	79.5	97	99	70-130	2	20	
Copper	ug/L	0.82	80	80	81.1	81.1	100	100	70-130	0	20	
Iron	ug/L	55.2	1000	1000	1040	1040	99	99	70-130	.1	20	
Lead	ug/L	ND	80	80	79.9	80.9	100	101	70-130	1	20	
Magnesium	ug/L	10300	1000	1000	9050	9120	-123	-116	70-130	.8	20	M1
Manganese	ug/L	188	80	80	254	256	83	85	70-130	.7	20	
Nickel	ug/L	ND	80	80	82.2	82.9	103	103	70-130	.8	20	
Potassium	ug/L	767	1000	1000	1740	1730	98	97	70-130	.6	20	
Selenium	ug/L	ND	80	80	78.8	80.3	98	100	70-130	2	20	
Silver	ug/L	ND	80	80	80.5	80.6	101	101	70-130	.1	20	
Sodium	ug/L	6590	1000	1000	6160	6160	-43	-43	70-130	0	20	
Thallium	ug/L	ND	80	80	80.1	81.8	100	102	70-130	2	20	
Total Hardness by 2340B	ug/L	222000	6620	6620	180000	180000	-645	-646	70-130	.04	20	
Vanadium	ug/L	ND	80	80	77.2	76.5	96	96	70-130	.8	20	
Zinc	ug/L	7.5	80	80	85.0	85.2	97	97	70-130	.3	20	

MATRIX SPIKE SAMPLE: 1131438

Parameter	Units	60114003019		Spike	MS	MS	% Rec Limits	Qualifiers
		Result	Conc.	Conc.	Result	% Rec		
Aluminum	ug/L		482	80	836	442	70-130	
Arsenic	ug/L		ND	80	80.7	100	70-130	
Barium	ug/L		19.0	80	109	112	70-130	
Cadmium	ug/L		1.1	80	85.5	106	70-130	
Calcium	ug/L	221000	1000		249000	2880	70-130	M6
Chromium	ug/L		1.2	80	88.0	108	70-130	
Copper	ug/L		2.7	80	92.4	112	70-130	
Iron	ug/L	700	1000		1880	118	70-130	
Lead	ug/L		3.8	80	92.6	111	70-130	
Magnesium	ug/L	20400	1000		23300	290	70-130	M6

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 79 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

MATRIX SPIKE SAMPLE: 1131438

Parameter	Units	60114003019 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	15.4	80	103	110	70-130	
Nickel	ug/L	0.69	80	90.7	112	70-130	
Potassium	ug/L	1890	1000	3330	144	70-130	
Selenium	ug/L	1.4	80	90.7	112	70-130	
Silver	ug/L	ND	80	85.0	106	70-130	
Sodium	ug/L	11600	1000	13500	192	70-130	
Thallium	ug/L	ND	80	88.8	111	70-130	
Total Hardness by 2340B	ug/L	635000	6620	719000	1270	70-130	
Vanadium	ug/L	0.66	80	84.3	105	70-130	
Zinc	ug/L	30.0	80	124	118	70-130	

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch: ICPM/30703 Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Associated Lab Samples: 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026

METHOD BLANK: 1131452 Matrix: Water

Associated Lab Samples: 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	4.0	01/26/12 03:46	
Arsenic	ug/L	ND	0.50	01/26/12 03:46	
Barium	ug/L	ND	0.30	01/26/12 03:46	
Cadmium	ug/L	ND	0.080	01/26/12 03:46	
Calcium	ug/L	ND	20.0	01/26/12 03:46	
Chromium	ug/L	ND	0.50	01/26/12 03:46	
Copper	ug/L	ND	0.50	01/26/12 03:46	
Iron	ug/L	ND	50.0	01/26/12 03:46	
Lead	ug/L	ND	0.10	01/26/12 03:46	
Magnesium	ug/L	ND	5.0	01/26/12 03:46	
Manganese	ug/L	ND	0.50	01/26/12 03:46	
Nickel	ug/L	ND	0.50	01/26/12 03:46	
Potassium	ug/L	ND	20.0	01/26/12 03:46	
Selenium	ug/L	ND	0.50	01/26/12 03:46	
Silver	ug/L	ND	0.50	01/26/12 03:46	
Sodium	ug/L	ND	50.0	01/26/12 03:46	
Thallium	ug/L	ND	0.10	01/26/12 03:46	
Total Hardness by 2340B	ug/L	ND	71.0	01/26/12 03:46	
Vanadium	ug/L	ND	0.10	01/26/12 03:46	
Zinc	ug/L	ND	5.0	01/26/12 03:46	

LABORATORY CONTROL SAMPLE: 1131453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	80	81.6	102	85-115	
Arsenic	ug/L	80	79.0	99	85-115	
Barium	ug/L	80	77.3	97	85-115	
Cadmium	ug/L	80	78.9	99	85-115	
Calcium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	80	82.4	103	85-115	
Copper	ug/L	80	82.0	103	85-115	
Iron	ug/L	1000	1020	102	85-115	
Lead	ug/L	80	82.3	103	85-115	
Magnesium	ug/L	1000	1030	103	85-115	
Manganese	ug/L	80	81.1	101	85-115	
Nickel	ug/L	80	83.7	105	85-115	
Potassium	ug/L	1000	953	95	85-115	
Selenium	ug/L	80	78.8	98	85-115	
Silver	ug/L	80	81.7	102	85-115	
Sodium	ug/L	1000	982	98	85-115	
Thallium	ug/L	80	81.8	102	85-115	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 81 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

LABORATORY CONTROL SAMPLE: 1131453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Hardness by 2340B	ug/L	6620	6740	102	85-115	
Vanadium	ug/L	80	80.6	101	85-115	
Zinc	ug/L	80	81.1	101	85-115	

MATRIX SPIKE SAMPLE: 1131455

Parameter	Units	92110663001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	3900	80	4270	453	70-130	M1
Arsenic	ug/L	ND	80	78.0	96	70-130	
Barium	ug/L	90.1	80	167	96	70-130	
Cadmium	ug/L	1.3	80	80.7	99	70-130	
Calcium	ug/L	15200	1000	16300	108	70-130	
Chromium	ug/L	7.3	80	89.0	102	70-130	
Copper	ug/L	104	80	181	96	70-130	
Iron	ug/L	3000	1000	3940	94	70-130	
Lead	ug/L	12.3	80	93.4	101	70-130	
Magnesium	ug/L	3600	1000	4520	91	70-130	
Manganese	ug/L	146	80	229	103	70-130	
Nickel	ug/L	6.2	80	88.0	102	70-130	
Potassium	ug/L	12500	1000	13700	125	70-130	
Selenium	ug/L	ND	80	75.2	94	70-130	
Silver	ug/L	13.0	80	84.0	89	70-130	
Sodium	ug/L	172000	1000	174000	250	70-130	E,M1
Thallium	ug/L	ND	80	80.6	101	70-130	
Total Hardness by 2340B	ug/L	52900	6620	59400	98	70-130	
Vanadium	ug/L			85.0			
Zinc	ug/L		399	80	481	103	70-130

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1131456 1131457

Parameter	Units	60114003024 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Conc.	Result	MSD Result						
Aluminum	ug/L	1760	80	80	1910	2030	182	341	70-130	6	20	
Arsenic	ug/L	228	80	80	308	319	101	114	70-130	3	20	
Barium	ug/L	15.2	80	80	95.3	99.8	100	106	70-130	5	20	
Cadmium	ug/L	0.21	80	80	82.8	85.4	103	107	70-130	3	20	
Calcium	ug/L	409000	1000	1000	420000	435000	1070	2560	70-130	3	20	E,M1
Chromium	ug/L	0.98	80	80	87.4	91.0	108	112	70-130	4	20	
Copper	ug/L	3.8	80	80	86.8	91.2	104	109	70-130	5	20	
Iron	ug/L	156000	1000	1000	157000	165000	135	945	70-130	5	20	E
Lead	ug/L	34.4	80	80	119	123	106	111	70-130	3	20	
Magnesium	ug/L	83400	1000	1000	84900	88600	145	520	70-130	4	20	M1
Manganese	ug/L	16900	80	80	12200	12700	-5990	-5240	70-130	5	20	E
Nickel	ug/L	20.4	80	80	107	112	108	115	70-130	5	20	
Potassium	ug/L	10400	1000	1000	11300	11500	88	110	70-130	2	20	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 82 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Parameter	Units	Result	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	
			Spike Conc.	Spike Conc.							RPD	RPD
Selenium	ug/L	ND	80	80	81.8	82.4	102	103	70-130	.7	20	
Silver	ug/L	ND	80	80	81.2	82.8	101	103	70-130	2	20	
Sodium	ug/L	9620	1000	1000	10600	10900	96	127	70-130	3	20	
Thallium	ug/L	0.11	80	80	82.6	83.4	103	104	70-130	1	20	
Total Hardness by 2340B	ug/L	1370000	6620	6620	1400000	1450000	494	1290	70-130	4	20	
Vanadium	ug/L	0.27	80	80	86.7	89.6	108	112	70-130	3	20	
Zinc	ug/L	20800	80	80	21100	22100	381	1680	70-130	5	20	E,M1

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch:	ICPM/30700	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	200.8 MET Dissolved
Associated Lab Samples:	60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018, 60114003019, 60114003020		

METHOD BLANK: 1131422 Matrix: Water

Associated Lab Samples: 60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018, 60114003019, 60114003020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	4.0	01/31/12 14:16	
Arsenic, Dissolved	ug/L	ND	0.50	01/31/12 14:16	
Barium, Dissolved	ug/L	ND	0.30	01/31/12 14:16	
Cadmium, Dissolved	ug/L	ND	0.080	01/31/12 14:16	
Calcium, Dissolved	ug/L	ND	20.0	01/31/12 14:16	
Chromium, Dissolved	ug/L	ND	0.50	01/31/12 14:16	
Copper, Dissolved	ug/L	ND	0.50	01/31/12 14:16	
Iron, Dissolved	ug/L	ND	50.0	01/31/12 14:16	
Lead, Dissolved	ug/L	ND	0.10	01/31/12 14:16	
Magnesium, Dissolved	ug/L	ND	5.0	01/31/12 14:16	
Manganese, Dissolved	ug/L	ND	0.50	01/31/12 14:16	
Nickel, Dissolved	ug/L	ND	0.50	01/31/12 14:16	
Potassium, Dissolved	ug/L	ND	20.0	01/31/12 14:16	
Selenium, Dissolved	ug/L	ND	0.50	01/31/12 14:16	
Silver, Dissolved	ug/L	ND	0.50	01/31/12 14:16	
Sodium, Dissolved	ug/L	ND	50.0	01/31/12 14:16	
Thallium, Dissolved	ug/L	ND	0.10	01/31/12 14:16	
Vanadium, Dissolved	ug/L	ND	0.10	01/31/12 14:16	
Zinc, Dissolved	ug/L	ND	5.0	01/31/12 14:16	

LABORATORY CONTROL SAMPLE: 1131423

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	80	80.0	100	85-115	
Arsenic, Dissolved	ug/L	80	83.6	104	85-115	
Barium, Dissolved	ug/L	80	82.8	104	85-115	
Cadmium, Dissolved	ug/L	80	84.4	106	85-115	
Calcium, Dissolved	ug/L	1000	997	100	85-115	
Chromium, Dissolved	ug/L	80	85.3	107	85-115	
Copper, Dissolved	ug/L	80	88.9	111	85-115	
Iron, Dissolved	ug/L	1000	1110	111	85-115	
Lead, Dissolved	ug/L	80	86.5	108	85-115	
Magnesium, Dissolved	ug/L	1000	1130	113	85-115	
Manganese, Dissolved	ug/L	80	84.4	106	85-115	
Nickel, Dissolved	ug/L	80	88.2	110	85-115	
Potassium, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	80	77.9	97	85-115	
Silver, Dissolved	ug/L	80	86.5	108	85-115	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 84 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

LABORATORY CONTROL SAMPLE: 1131423

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sodium, Dissolved	ug/L	1000	1020	102	85-115	
Thallium, Dissolved	ug/L	80	87.6	110	85-115	
Vanadium, Dissolved	ug/L	80	85.5	107	85-115	
Zinc, Dissolved	ug/L	80	85.0	106	85-115	

MATRIX SPIKE SAMPLE: 1131426

Parameter	Units	60114003020 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	5.4	80	86.8	102	70-130	
Arsenic, Dissolved	ug/L	ND	80	79.0	98	70-130	
Barium, Dissolved	ug/L	16.5	80	101	106	70-130	
Cadmium, Dissolved	ug/L	ND	80	80.3	100	70-130	
Calcium, Dissolved	ug/L	216000	1000	229000	1290	70-130	E
Chromium, Dissolved	ug/L	ND	80	79.2	99	70-130	
Copper, Dissolved	ug/L	0.67	80	78.8	98	70-130	
Iron, Dissolved	ug/L	728	1000	1700	98	70-130	
Lead, Dissolved	ug/L	ND	80	81.2	102	70-130	
Magnesium, Dissolved	ug/L	23100	1000	25200	213	70-130	
Manganese, Dissolved	ug/L	1230	80	1350	149	70-130	M1
Nickel, Dissolved	ug/L	ND	80	80.7	100	70-130	
Potassium, Dissolved	ug/L	2050	1000	3120	106	70-130	
Selenium, Dissolved	ug/L	ND	80	79.8	100	70-130	
Silver, Dissolved	ug/L	ND	80	78.4	98	70-130	
Sodium, Dissolved	ug/L	9890	1000	10900	97	70-130	
Thallium, Dissolved	ug/L	ND	80	81.0	101	70-130	
Vanadium, Dissolved	ug/L	ND	80	78.9	99	70-130	
Zinc, Dissolved	ug/L	42.3	80	126	104	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1131823 1131824

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max		Qual
		60114003002 Result	Spike Conc.	Spike Conc.	Result				RPD	RPD	
Aluminum, Dissolved	ug/L	4.5	80	80	85.0	101	101	120	70-130	17	20
Arsenic, Dissolved	ug/L	ND	80	80	84.2	95.8	105	120	70-130	13	20
Barium, Dissolved	ug/L	70.0	80	80	153	175	104	132	70-130	13	20
Cadmium, Dissolved	ug/L	ND	80	80	85.2	99.7	106	125	70-130	16	20
Calcium, Dissolved	ug/L	61900	1000	1000	82200	95300	2040	3340	70-130	15	20
Chromium, Dissolved	ug/L	ND	80	80	86.8	102	108	127	70-130	16	20
Copper, Dissolved	ug/L	0.83	80	80	87.8	100	109	124	70-130	13	20
Iron, Dissolved	ug/L	ND	1000	1000	1120	1310	109	128	70-130	16	20
Lead, Dissolved	ug/L	0.19	80	80	86.3	99.5	108	124	70-130	14	20
Magnesium, Dissolved	ug/L	8160	1000	1000	13600	12100	544	398	70-130	11	20
Manganese, Dissolved	ug/L	190	80	80	278	318	110	160	70-130	13	20 M1
Nickel, Dissolved	ug/L	ND	80	80	88.2	99.6	110	124	70-130	12	20
Potassium, Dissolved	ug/L	821	1000	1000	1910	2060	109	124	70-130	8	20

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 85 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Parameter	Units	MS		MSD		MS Result	% Rec	MSD % Rec	% Rec Limits	Max		
		60114003002		Spike	Spike					RPD	RPD	Qual
		Conc.	Conc.	Result	Conc.					% Rec		
Selenium, Dissolved	ug/L	ND	80	80	79.4	88.8	99	111	70-130	11	20	
Silver, Dissolved	ug/L	ND	80	80	118	108	148	135	70-130	9	20	M6
Sodium, Dissolved	ug/L	5480	1000	1000	6580	7500	109	202	70-130	13	20	
Thallium, Dissolved	ug/L	ND	80	80	88.0	96.2	110	120	70-130	9	20	
Vanadium, Dissolved	ug/L	ND	80	80	87.0	101	109	126	70-130	15	20	
Zinc, Dissolved	ug/L	7.4	80	80	97.6	113	113	132	70-130	15	20	M1

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

QC Batch: ICPM/30702 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET Dissolved
Associated Lab Samples: 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026

METHOD BLANK: 1131441 Matrix: Water

Associated Lab Samples: 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Aluminum, Dissolved	ug/L	ND	4.0	02/03/12 09:54	
Arsenic, Dissolved	ug/L	ND	0.50	02/03/12 09:54	
Barium, Dissolved	ug/L	ND	0.30	02/03/12 09:54	
Cadmium, Dissolved	ug/L	ND	0.080	02/03/12 09:54	
Calcium, Dissolved	ug/L	ND	20.0	02/03/12 09:54	
Chromium, Dissolved	ug/L	ND	0.50	02/03/12 09:54	
Copper, Dissolved	ug/L	ND	0.50	02/03/12 09:54	
Iron, Dissolved	ug/L	ND	50.0	02/03/12 09:54	
Lead, Dissolved	ug/L	ND	0.10	02/03/12 09:54	
Magnesium, Dissolved	ug/L	ND	5.0	02/03/12 09:54	
Manganese, Dissolved	ug/L	ND	0.50	02/03/12 09:54	
Nickel, Dissolved	ug/L	ND	0.50	02/03/12 09:54	
Potassium, Dissolved	ug/L	ND	20.0	02/03/12 09:54	
Selenium, Dissolved	ug/L	ND	0.50	02/03/12 09:54	
Silver, Dissolved	ug/L	ND	0.50	02/03/12 09:54	
Sodium, Dissolved	ug/L	ND	50.0	02/03/12 09:54	
Thallium, Dissolved	ug/L	ND	0.10	02/03/12 09:54	
Vanadium, Dissolved	ug/L	ND	0.10	02/03/12 09:54	
Zinc, Dissolved	ug/L	ND	5.0	02/03/12 09:54	

LABORATORY CONTROL SAMPLE: 1131442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	80	79.4	99	85-115	
Arsenic, Dissolved	ug/L	80	81.7	102	85-115	
Barium, Dissolved	ug/L	80	83.3	104	85-115	
Cadmium, Dissolved	ug/L	80	79.2	99	85-115	
Calcium, Dissolved	ug/L	1000	1030	103	85-115	
Chromium, Dissolved	ug/L	80	82.7	103	85-115	
Copper, Dissolved	ug/L	80	82.4	103	85-115	
Iron, Dissolved	ug/L	1000	1000	100	85-115	
Lead, Dissolved	ug/L	80	84.2	105	85-115	
Magnesium, Dissolved	ug/L	1000	988	99	85-115	
Manganese, Dissolved	ug/L	80	82.1	103	85-115	
Nickel, Dissolved	ug/L	80	78.2	98	85-115	
Potassium, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	80	79.6	99	85-115	
Silver, Dissolved	ug/L	80	85.6	107	85-115	
Sodium, Dissolved	ug/L	1000	995	99	85-115	
Thallium, Dissolved	ug/L	80	84.4	105	85-115	
Vanadium, Dissolved	ug/L	80	80.9	101	85-115	

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 87 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

LABORATORY CONTROL SAMPLE: 1131442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Zinc, Dissolved	ug/L	80	82.2	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1131443 1131444

Parameter	10181229001 Units	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	3.4J	80	90.8	92.7	109	112	70-130	2	20	
Arsenic, Dissolved	ug/L	28.5	80	112	118	104	112	70-130	6	20	
Barium, Dissolved	ug/L	179	80	272	285	116	132	70-130	4	20	
Cadmium, Dissolved	ug/L	2.3	80	82.6	85.0	100	103	70-130	3	20	
Calcium, Dissolved	ug/L	145000	1000	138000	143000	-740	-190	70-130	4	20	
Chromium, Dissolved	ug/L	0.74	80	83.8	86.2	104	107	70-130	3	20	
Copper, Dissolved	ug/L	3.6	80	84.9	88.5	102	106	70-130	4	20	
Iron, Dissolved	ug/L	ND	1000	987	1040	97	102	70-130	5	20	
Lead, Dissolved	ug/L	0.070J	80	81.3	86.4	102	108	70-130	6	20	
Magnesium, Dissolved	ug/L	34700	1000	33600	35100	-112	43	70-130	5	20	
Manganese, Dissolved	ug/L	63.2	80	151	157	110	117	70-130	4	20	
Nickel, Dissolved	ug/L	0.99	80	78.4	83.4	97	103	70-130	6	20	
Potassium, Dissolved	ug/L	8780	1000	10600	10800	178	205	70-130	3	20	
Selenium, Dissolved	ug/L	0.34J	80	79.4	85.2	99	106	70-130	7	20	
Silver, Dissolved	ug/L	2.7	80	64.1	70.3	77	85	70-130	9	20	
Sodium, Dissolved	ug/L	388000	1000	368000	383000	-2010	-540	70-130	4	20	E
Thallium, Dissolved	ug/L	ND	80	82.2	87.1	103	109	70-130	6	20	
Vanadium, Dissolved	ug/L	8.3	80	89.8	94.0	102	107	70-130	5	20	
Zinc, Dissolved	ug/L	157	80	251	265	118	136	70-130	5	20	M6

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch:	MERC/6404	Analysis Method:	EPA 245.1
QC Batch Method:	EPA 245.1	Analysis Description:	245.1 Mercury
Associated Lab Samples:	60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018, 60114003019, 60114003020		

METHOD BLANK: 1131407 Matrix: Water

Associated Lab Samples: 60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018, 60114003019, 60114003020

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury	ug/L	ND	0.20	01/31/12 13:54	

LABORATORY CONTROL SAMPLE: 1131408

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury	ug/L	5	4.9	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1131409 1131410

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60114003001	Spike										
Mercury	ug/L	ND	5	5	4.8	4.5	96	90	85-115	6	30		

MATRIX SPIKE SAMPLE: 1131411

Parameter	Units	60114003020		Spike	MS	MS	% Rec	% Rec	Qualifiers
		Result	Conc.	Conc.	Result	% Rec	Limits		
Mercury	ug/L	ND	5	5	5.2	104	85-115		

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch: MERC/6405 Analysis Method: EPA 245.1

QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury

Associated Lab Samples: 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026

METHOD BLANK: 1131412 Matrix: Water

Associated Lab Samples: 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury	ug/L	ND	0.20	01/31/12 13:23	

LABORATORY CONTROL SAMPLE: 1131413

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1131414 1131415

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60114003021	Spike										
Mercury	ug/L	ND	5	5	4.4	4.4	87	86	85-115	.2	30		

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch:	MERC/6403	Analysis Method:	EPA 245.1
QC Batch Method:	EPA 245.1	Analysis Description:	245.1 Mercury - Dissolved
Associated Lab Samples:	60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018, 60114003019, 60114003020		

METHOD BLANK: 1131402 Matrix: Water

Associated Lab Samples: 60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018, 60114003019, 60114003020

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury, Dissolved	ug/L	ND	0.20	02/01/12 10:22	

LABORATORY CONTROL SAMPLE: 1131403

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury, Dissolved	ug/L	5	4.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1131404 1131405

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60114003001	Spike										
Mercury, Dissolved	ug/L	ND	5	5	4.9	4.8	97	95	85-115	3	20		

MATRIX SPIKE SAMPLE: 1131406

Parameter	Units	60114003020		Spike	MS	MS	% Rec	% Rec	Qualifiers
		Result	Conc.	Conc.	Result	% Rec	Limits		
Mercury, Dissolved	ug/L	ND	5	5	4.4	87	85-115		

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch: MERC/6406 Analysis Method: EPA 245.1

QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury - Dissolved

Associated Lab Samples: 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026

METHOD BLANK: 1131416 Matrix: Water

Associated Lab Samples: 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Mercury, Dissolved	ug/L	ND	0.20	01/30/12 10:52	

LABORATORY CONTROL SAMPLE: 1131417

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Mercury, Dissolved	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1131418 1131419

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60114003021	Spike										
Mercury, Dissolved	ug/L	ND	5	5	4.4	5.1	88	101	85-115	14	20		

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch:	WET/33263	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples:	60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017		

METHOD BLANK: 944829 Matrix: Water

Associated Lab Samples: 60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	20.0	01/31/12 10:00	
Alkalinity, Total as CaCO ₃	mg/L	ND	20.0	01/31/12 10:00	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	20.0	01/31/12 10:00	

LABORATORY CONTROL SAMPLE: 944830

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Alkalinity, Total as CaCO ₃	mg/L	500	514	103	90-110	

SAMPLE DUPLICATE: 944831

Parameter	Units	60113817002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	64.0	66.0	3	9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	64.0	66.0	3	9	

SAMPLE DUPLICATE: 944832

Parameter	Units	60114003006	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	120	124	3	9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	120	124	3	9	

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch:	WET/33297	Analysis Method:	SM 2320B
QC Batch Method:	SM 2320B	Analysis Description:	2320B Alkalinity
Associated Lab Samples:	60114003018, 60114003019, 60114003020, 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026		

METHOD BLANK: 945631 Matrix: Water

Associated Lab Samples: 60114003018, 60114003019, 60114003020, 60114003021, 60114003022, 60114003023, 60114003024,
60114003025, 60114003026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	20.0	02/01/12 13:00	
Alkalinity, Total as CaCO ₃	mg/L	ND	20.0	02/01/12 13:00	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	ND	20.0	02/01/12 13:00	

LABORATORY CONTROL SAMPLE: 945632

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	500	514	103	90-110	

SAMPLE DUPLICATE: 945633

Parameter	Units	60114003019 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	90.0	88.0	2	9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	90.0	88.0	2	9	

SAMPLE DUPLICATE: 945634

Parameter	Units	60114003026 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Carbonate (CaCO ₃)	mg/L	ND	ND		24	
Alkalinity, Total as CaCO ₃	mg/L	160	164	2	9	
Alkalinity,Bicarbonate (CaCO ₃)	mg/L	160	164	2	9	

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch:	WET/33176	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016		

METHOD BLANK: 942455 Matrix: Water

Associated Lab Samples: 60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	01/24/12 12:29	

SAMPLE DUPLICATE: 942456

Parameter	Units	60114003001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	176	188	7	17	

SAMPLE DUPLICATE: 942457

Parameter	Units	60114003011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		17	

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

QC Batch:	WET/33191	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	60114003017, 60114003018, 60114003019, 60114003020, 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026		

METHOD BLANK:	942773	Matrix:	Water
Associated Lab Samples:	60114003017, 60114003018, 60114003019, 60114003020, 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	01/25/12 10:24	

SAMPLE DUPLICATE: 942774

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	60114131001	1100	1110	1	17

SAMPLE DUPLICATE: 942775

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	60114003020	983	928	6	17

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch:	WET/33165	Analysis Method:	SM 2540D
QC Batch Method:	SM 2540D	Analysis Description:	2540D Total Suspended Solids
Associated Lab Samples:	60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016		

METHOD BLANK: 942146 Matrix: Water

Associated Lab Samples: 60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	01/23/12 12:16	

SAMPLE DUPLICATE: 942147

Parameter	Units	60114003001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 942148

Parameter	Units	60114003011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

QC Batch:	WET/33177	Analysis Method:	SM 2540D
QC Batch Method:	SM 2540D	Analysis Description:	2540D Total Suspended Solids
Associated Lab Samples:	60114003017, 60114003018, 60114003019, 60114003020, 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026		

METHOD BLANK:	942466	Matrix:	Water
Associated Lab Samples:	60114003017, 60114003018, 60114003019, 60114003020, 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	01/24/12 14:09	

SAMPLE DUPLICATE: 942467

Parameter	Units	60114111001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	9.0	12.0	29	25	R1

SAMPLE DUPLICATE: 942468

Parameter	Units	60114003017 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	102	92.0	10	25	

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch: WET/33147 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017

SAMPLE DUPLICATE: 941555

Parameter	Units	60113978001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.8	0	5	H6

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch: WET/33148 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 60114003018, 60114003019, 60114003020, 60114003021, 60114003022, 60114003023, 60114003024,
60114003025, 60114003026

SAMPLE DUPLICATE: 941556

Parameter	Units	60114003018 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	1	5	H6

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch: WETA/19052 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018, 60114003019, 60114003020

METHOD BLANK: 943588 Matrix: Water

Associated Lab Samples: 60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018, 60114003019, 60114003020

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Sulfate	mg/L	ND	1.0	01/26/12 16:51	

LABORATORY CONTROL SAMPLE: 943589

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Sulfate	mg/L	5	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 943590 943591

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60114003001	Spike										
Sulfate	mg/L	49.3	25	25	72.6	73.5	93	97	61-119	1	10		

MATRIX SPIKE SAMPLE: 943592

Parameter	Units	60114003010	Spike	MS	MS	% Rec	% Rec	Qualifiers
		Result	Conc.	Result	% Rec	Limits		
Sulfate	mg/L	125	50	174	99	61-119		

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch: WETA/19053 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026

METHOD BLANK: 943597 Matrix: Water

Associated Lab Samples: 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Sulfate	mg/L	ND	1.0	01/26/12 23:44	

LABORATORY CONTROL SAMPLE: 943598

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Sulfate	mg/L	5	5.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 943599 943600

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		60114003021	Spike										
Sulfate	mg/L	470	250	250	725	702	102	93	61-119	3	10		

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

QC Batch:	WETA/19029	Analysis Method:	SM 4500-CN-E
QC Batch Method:	SM 4500-CN-E	Analysis Description:	4500CNE Cyanide, Total
Associated Lab Samples:	60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018		

METHOD BLANK: 942692 Matrix: Water

Associated Lab Samples: 60114003001, 60114003002, 60114003003, 60114003004, 60114003005, 60114003006, 60114003007, 60114003008, 60114003009, 60114003010, 60114003011, 60114003012, 60114003013, 60114003014, 60114003015, 60114003016, 60114003017, 60114003018

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Cyanide	mg/L	ND	0.0050	01/25/12 15:54	

LABORATORY CONTROL SAMPLE: 942693

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Cyanide	mg/L	.1	0.10	100	69-126	

MATRIX SPIKE SAMPLE: 942694

Parameter	Units	60114137001	Spike	MS	MS	% Rec	Qualifiers
		Result	Conc.	Result	% Rec	Limits	
Cyanide	mg/L	ND	.1	0.095	94	41-136	

SAMPLE DUPLICATE: 942695

Parameter	Units	60114003001	Dup	Max	Qualifiers
		Result	Result	RPD	
Cyanide	mg/L	ND	.003J	26	

QUALITY CONTROL DATA

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

QC Batch:	WETA/19060	Analysis Method:	SM 4500-CN-E
QC Batch Method:	SM 4500-CN-E	Analysis Description:	4500CNE Cyanide, Total
Associated Lab Samples:	60114003019, 60114003020, 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026		

METHOD BLANK:	943988	Matrix:	Water
Associated Lab Samples:	60114003019, 60114003020, 60114003021, 60114003022, 60114003023, 60114003024, 60114003025, 60114003026		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.0050	01/27/12 15:12	

LABORATORY CONTROL SAMPLE: 943989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.1	0.10	105	69-126	

MATRIX SPIKE SAMPLE: 943990

Parameter	Units	60114003019 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	ND	.1	0.11	106	41-136	

SAMPLE DUPLICATE: 943991

Parameter	Units	60114003020 Result	Dup Result	RPD	Max RPD	Qualifiers
Cyanide	mg/L	ND	.0039J	26		

QUALIFIERS

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

- CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
- D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
- E Analyte concentration exceeded the calibration range. The reported result is estimated.
- H6 Analysis initiated more than 15 minutes after sample collection.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
- R1 RPD value was outside control limits.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114003001	DR-1	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003002	DR-2	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003003	DR-3	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003004	DR-4	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003005	DR-5	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003006	DR-6	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003007	DR-7	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003008	DR-8	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003009	DR-4-SW	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003010	DR-G	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003011	FB	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003012	GW-7	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003013	EB-1	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003014	EB-2	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003015	GW-3	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003016	GW-5	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003017	MW-1 SHALLOW	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003018	MW-1 DEEP	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003019	MW-2 DEEP	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003020	MW-3 DEEP	EPA 200.8	ICPM/30701	EPA 200.8	ICPM/12209
60114003021	MW-4 SHALLOW	EPA 200.8	ICPM/30703	EPA 200.8	ICPM/12203
60114003022	MW-4 DEEP	EPA 200.8	ICPM/30703	EPA 200.8	ICPM/12203
60114003023	MW-5 SHALLOW	EPA 200.8	ICPM/30703	EPA 200.8	ICPM/12203
60114003024	MW-5 DEEP	EPA 200.8	ICPM/30703	EPA 200.8	ICPM/12203
60114003025	MW-6 SHALLOW	EPA 200.8	ICPM/30703	EPA 200.8	ICPM/12203
60114003026	MW-6 DEEP	EPA 200.8	ICPM/30703	EPA 200.8	ICPM/12203
60114003001	DR-1	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003002	DR-2	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003003	DR-3	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003004	DR-4	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003005	DR-5	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003006	DR-6	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003007	DR-7	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003008	DR-8	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003009	DR-4-SW	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003010	DR-G	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003011	FB	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003012	GW-7	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003013	EB-1	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003014	EB-2	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003015	GW-3	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003016	GW-5	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003017	MW-1 SHALLOW	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003018	MW-1 DEEP	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003019	MW-2 DEEP	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003020	MW-3 DEEP	EPA 200.8	ICPM/30700	EPA 200.8	ICPM/12208
60114003021	MW-4 SHALLOW	EPA 200.8	ICPM/30702	EPA 200.8	ICPM/12204

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 106 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO WATER SAMPLING JAN 2012
Pace Project No.: 60114003

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114003022	MW-4 DEEP	EPA 200.8	ICPM/30702	EPA 200.8	ICPM/12204
60114003023	MW-5 SHALLOW	EPA 200.8	ICPM/30702	EPA 200.8	ICPM/12204
60114003024	MW-5 DEEP	EPA 200.8	ICPM/30702	EPA 200.8	ICPM/12204
60114003025	MW-6 SHALLOW	EPA 200.8	ICPM/30702	EPA 200.8	ICPM/12204
60114003026	MW-6 DEEP	EPA 200.8	ICPM/30702	EPA 200.8	ICPM/12204
60114003001	DR-1	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003002	DR-2	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003003	DR-3	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003004	DR-4	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003005	DR-5	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003006	DR-6	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003007	DR-7	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003008	DR-8	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003009	DR-4-SW	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003010	DR-G	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003011	FB	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003012	GW-7	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003013	EB-1	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003014	EB-2	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003015	GW-3	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003016	GW-5	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003017	MW-1 SHALLOW	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003018	MW-1 DEEP	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003019	MW-2 DEEP	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003020	MW-3 DEEP	EPA 245.1	MERC/6404	EPA 245.1	MERC/7213
60114003021	MW-4 SHALLOW	EPA 245.1	MERC/6405	EPA 245.1	MERC/7214
60114003022	MW-4 DEEP	EPA 245.1	MERC/6405	EPA 245.1	MERC/7214
60114003023	MW-5 SHALLOW	EPA 245.1	MERC/6405	EPA 245.1	MERC/7214
60114003024	MW-5 DEEP	EPA 245.1	MERC/6405	EPA 245.1	MERC/7214
60114003025	MW-6 SHALLOW	EPA 245.1	MERC/6405	EPA 245.1	MERC/7214
60114003026	MW-6 DEEP	EPA 245.1	MERC/6405	EPA 245.1	MERC/7214
60114003001	DR-1	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003002	DR-2	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003003	DR-3	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003004	DR-4	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003005	DR-5	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003006	DR-6	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003007	DR-7	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003008	DR-8	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003009	DR-4-SW	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003010	DR-G	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003011	FB	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003012	GW-7	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003013	EB-1	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003014	EB-2	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003015	GW-3	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003016	GW-5	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 107 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114003017	MW-1 SHALLOW	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003018	MW-1 DEEP	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003019	MW-2 DEEP	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003020	MW-3 DEEP	EPA 245.1	MERC/6403	EPA 245.1	MERC/7211
60114003021	MW-4 SHALLOW	EPA 245.1	MERC/6406	EPA 245.1	MERC/7209
60114003022	MW-4 DEEP	EPA 245.1	MERC/6406	EPA 245.1	MERC/7209
60114003023	MW-5 SHALLOW	EPA 245.1	MERC/6406	EPA 245.1	MERC/7209
60114003024	MW-5 DEEP	EPA 245.1	MERC/6406	EPA 245.1	MERC/7209
60114003025	MW-6 SHALLOW	EPA 245.1	MERC/6406	EPA 245.1	MERC/7209
60114003026	MW-6 DEEP	EPA 245.1	MERC/6406	EPA 245.1	MERC/7209
60114003001	DR-1	SM 2320B	WET/33263		
60114003002	DR-2	SM 2320B	WET/33263		
60114003003	DR-3	SM 2320B	WET/33263		
60114003004	DR-4	SM 2320B	WET/33263		
60114003005	DR-5	SM 2320B	WET/33263		
60114003006	DR-6	SM 2320B	WET/33263		
60114003007	DR-7	SM 2320B	WET/33263		
60114003008	DR-8	SM 2320B	WET/33263		
60114003009	DR-4-SW	SM 2320B	WET/33263		
60114003010	DR-G	SM 2320B	WET/33263		
60114003011	FB	SM 2320B	WET/33263		
60114003012	GW-7	SM 2320B	WET/33263		
60114003013	EB-1	SM 2320B	WET/33263		
60114003014	EB-2	SM 2320B	WET/33263		
60114003015	GW-3	SM 2320B	WET/33263		
60114003016	GW-5	SM 2320B	WET/33263		
60114003017	MW-1 SHALLOW	SM 2320B	WET/33263		
60114003018	MW-1 DEEP	SM 2320B	WET/33297		
60114003019	MW-2 DEEP	SM 2320B	WET/33297		
60114003020	MW-3 DEEP	SM 2320B	WET/33297		
60114003021	MW-4 SHALLOW	SM 2320B	WET/33297		
60114003022	MW-4 DEEP	SM 2320B	WET/33297		
60114003023	MW-5 SHALLOW	SM 2320B	WET/33297		
60114003024	MW-5 DEEP	SM 2320B	WET/33297		
60114003025	MW-6 SHALLOW	SM 2320B	WET/33297		
60114003026	MW-6 DEEP	SM 2320B	WET/33297		
60114003001	DR-1	SM 2540C	WET/33176		
60114003002	DR-2	SM 2540C	WET/33176		
60114003003	DR-3	SM 2540C	WET/33176		
60114003004	DR-4	SM 2540C	WET/33176		
60114003005	DR-5	SM 2540C	WET/33176		
60114003006	DR-6	SM 2540C	WET/33176		
60114003007	DR-7	SM 2540C	WET/33176		
60114003008	DR-8	SM 2540C	WET/33176		
60114003009	DR-4-SW	SM 2540C	WET/33176		
60114003010	DR-G	SM 2540C	WET/33176		
60114003011	FB	SM 2540C	WET/33176		

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 108 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114003012	GW-7	SM 2540C	WET/33176		
60114003013	EB-1	SM 2540C	WET/33176		
60114003014	EB-2	SM 2540C	WET/33176		
60114003015	GW-3	SM 2540C	WET/33176		
60114003016	GW-5	SM 2540C	WET/33176		
60114003017	MW-1 SHALLOW	SM 2540C	WET/33191		
60114003018	MW-1 DEEP	SM 2540C	WET/33191		
60114003019	MW-2 DEEP	SM 2540C	WET/33191		
60114003020	MW-3 DEEP	SM 2540C	WET/33191		
60114003021	MW-4 SHALLOW	SM 2540C	WET/33191		
60114003022	MW-4 DEEP	SM 2540C	WET/33191		
60114003023	MW-5 SHALLOW	SM 2540C	WET/33191		
60114003024	MW-5 DEEP	SM 2540C	WET/33191		
60114003025	MW-6 SHALLOW	SM 2540C	WET/33191		
60114003026	MW-6 DEEP	SM 2540C	WET/33191		
60114003001	DR-1	SM 2540D	WET/33165		
60114003002	DR-2	SM 2540D	WET/33165		
60114003003	DR-3	SM 2540D	WET/33165		
60114003004	DR-4	SM 2540D	WET/33165		
60114003005	DR-5	SM 2540D	WET/33165		
60114003006	DR-6	SM 2540D	WET/33165		
60114003007	DR-7	SM 2540D	WET/33165		
60114003008	DR-8	SM 2540D	WET/33165		
60114003009	DR-4-SW	SM 2540D	WET/33165		
60114003010	DR-G	SM 2540D	WET/33165		
60114003011	FB	SM 2540D	WET/33165		
60114003012	GW-7	SM 2540D	WET/33165		
60114003013	EB-1	SM 2540D	WET/33165		
60114003014	EB-2	SM 2540D	WET/33165		
60114003015	GW-3	SM 2540D	WET/33165		
60114003016	GW-5	SM 2540D	WET/33165		
60114003017	MW-1 SHALLOW	SM 2540D	WET/33177		
60114003018	MW-1 DEEP	SM 2540D	WET/33177		
60114003019	MW-2 DEEP	SM 2540D	WET/33177		
60114003020	MW-3 DEEP	SM 2540D	WET/33177		
60114003021	MW-4 SHALLOW	SM 2540D	WET/33177		
60114003022	MW-4 DEEP	SM 2540D	WET/33177		
60114003023	MW-5 SHALLOW	SM 2540D	WET/33177		
60114003024	MW-5 DEEP	SM 2540D	WET/33177		
60114003025	MW-6 SHALLOW	SM 2540D	WET/33177		
60114003026	MW-6 DEEP	SM 2540D	WET/33177		
60114003001	DR-1	SM 4500-H+B	WET/33147		
60114003002	DR-2	SM 4500-H+B	WET/33147		
60114003003	DR-3	SM 4500-H+B	WET/33147		
60114003004	DR-4	SM 4500-H+B	WET/33147		
60114003005	DR-5	SM 4500-H+B	WET/33147		
60114003006	DR-6	SM 4500-H+B	WET/33147		

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 109 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114003007	DR-7	SM 4500-H+B	WET/33147		
60114003008	DR-8	SM 4500-H+B	WET/33147		
60114003009	DR-4-SW	SM 4500-H+B	WET/33147		
60114003010	DR-G	SM 4500-H+B	WET/33147		
60114003011	FB	SM 4500-H+B	WET/33147		
60114003012	GW-7	SM 4500-H+B	WET/33147		
60114003013	EB-1	SM 4500-H+B	WET/33147		
60114003014	EB-2	SM 4500-H+B	WET/33147		
60114003015	GW-3	SM 4500-H+B	WET/33147		
60114003016	GW-5	SM 4500-H+B	WET/33147		
60114003017	MW-1 SHALLOW	SM 4500-H+B	WET/33147		
60114003018	MW-1 DEEP	SM 4500-H+B	WET/33148		
60114003019	MW-2 DEEP	SM 4500-H+B	WET/33148		
60114003020	MW-3 DEEP	SM 4500-H+B	WET/33148		
60114003021	MW-4 SHALLOW	SM 4500-H+B	WET/33148		
60114003022	MW-4 DEEP	SM 4500-H+B	WET/33148		
60114003023	MW-5 SHALLOW	SM 4500-H+B	WET/33148		
60114003024	MW-5 DEEP	SM 4500-H+B	WET/33148		
60114003025	MW-6 SHALLOW	SM 4500-H+B	WET/33148		
60114003026	MW-6 DEEP	SM 4500-H+B	WET/33148		
60114003001	DR-1	EPA 300.0	WETA/19052		
60114003002	DR-2	EPA 300.0	WETA/19052		
60114003003	DR-3	EPA 300.0	WETA/19052		
60114003004	DR-4	EPA 300.0	WETA/19052		
60114003005	DR-5	EPA 300.0	WETA/19052		
60114003006	DR-6	EPA 300.0	WETA/19052		
60114003007	DR-7	EPA 300.0	WETA/19052		
60114003008	DR-8	EPA 300.0	WETA/19052		
60114003009	DR-4-SW	EPA 300.0	WETA/19052		
60114003010	DR-G	EPA 300.0	WETA/19052		
60114003011	FB	EPA 300.0	WETA/19052		
60114003012	GW-7	EPA 300.0	WETA/19052		
60114003013	EB-1	EPA 300.0	WETA/19052		
60114003014	EB-2	EPA 300.0	WETA/19052		
60114003015	GW-3	EPA 300.0	WETA/19052		
60114003016	GW-5	EPA 300.0	WETA/19052		
60114003017	MW-1 SHALLOW	EPA 300.0	WETA/19052		
60114003018	MW-1 DEEP	EPA 300.0	WETA/19052		
60114003019	MW-2 DEEP	EPA 300.0	WETA/19052		
60114003020	MW-3 DEEP	EPA 300.0	WETA/19052		
60114003021	MW-4 SHALLOW	EPA 300.0	WETA/19053		
60114003022	MW-4 DEEP	EPA 300.0	WETA/19053		
60114003023	MW-5 SHALLOW	EPA 300.0	WETA/19053		
60114003024	MW-5 DEEP	EPA 300.0	WETA/19053		
60114003025	MW-6 SHALLOW	EPA 300.0	WETA/19053		
60114003026	MW-6 DEEP	EPA 300.0	WETA/19053		
60114003001	DR-1	SM 4500-CN-E	WETA/19029		

Date: 02/29/2012 02:04 PM

REPORT OF LABORATORY ANALYSIS

Page 110 of 111

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

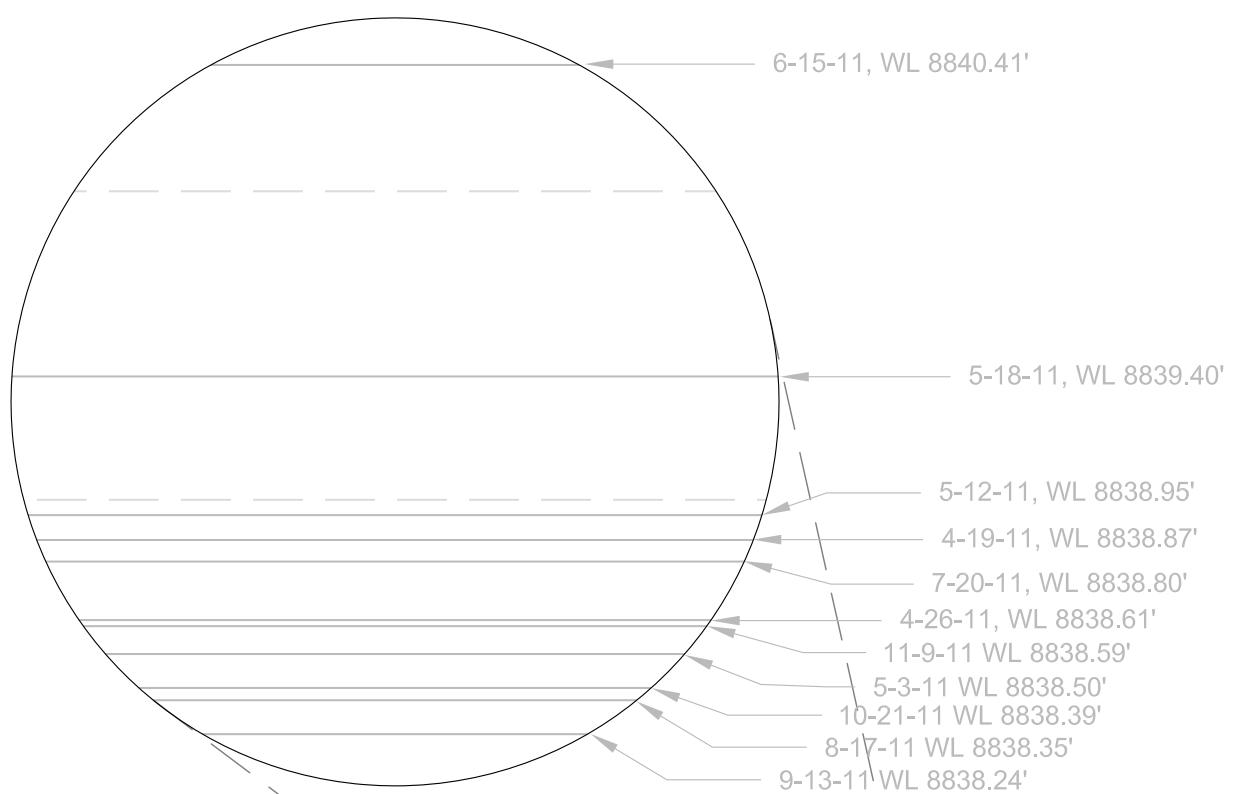
Project: RICO WATER SAMPLING JAN 2012

Pace Project No.: 60114003

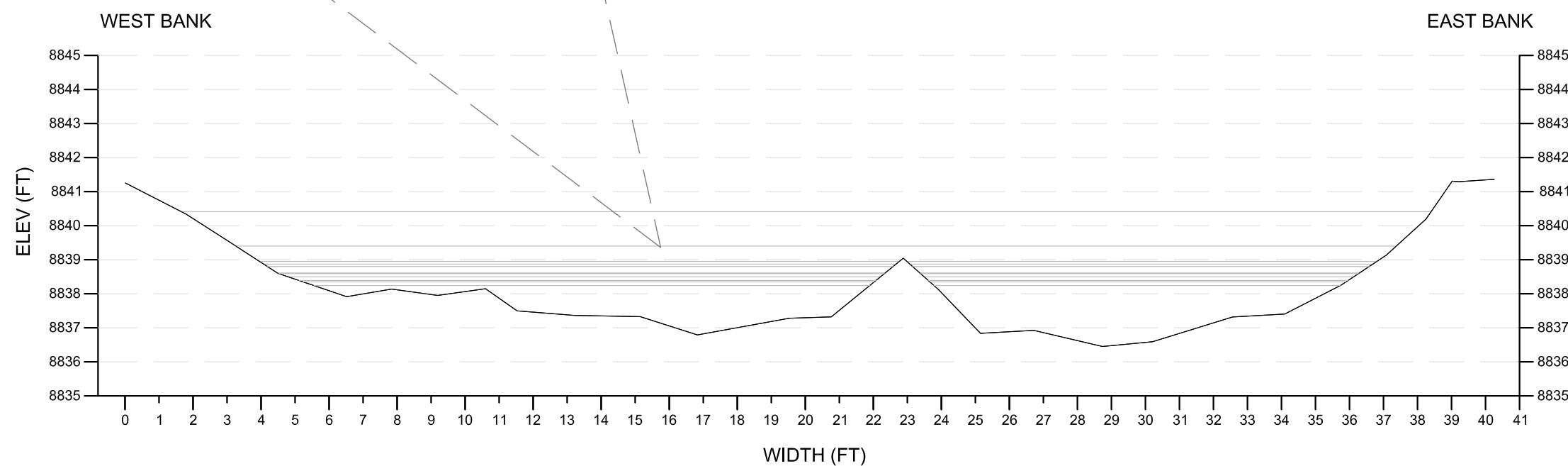
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60114003002	DR-2	SM 4500-CN-E	WETA/19029		
60114003003	DR-3	SM 4500-CN-E	WETA/19029		
60114003004	DR-4	SM 4500-CN-E	WETA/19029		
60114003005	DR-5	SM 4500-CN-E	WETA/19029		
60114003006	DR-6	SM 4500-CN-E	WETA/19029		
60114003007	DR-7	SM 4500-CN-E	WETA/19029		
60114003008	DR-8	SM 4500-CN-E	WETA/19029		
60114003009	DR-4-SW	SM 4500-CN-E	WETA/19029		
60114003010	DR-G	SM 4500-CN-E	WETA/19029		
60114003011	FB	SM 4500-CN-E	WETA/19029		
60114003012	GW-7	SM 4500-CN-E	WETA/19029		
60114003013	EB-1	SM 4500-CN-E	WETA/19029		
60114003014	EB-2	SM 4500-CN-E	WETA/19029		
60114003015	GW-3	SM 4500-CN-E	WETA/19029		
60114003016	GW-5	SM 4500-CN-E	WETA/19029		
60114003017	MW-1 SHALLOW	SM 4500-CN-E	WETA/19029		
60114003018	MW-1 DEEP	SM 4500-CN-E	WETA/19029		
60114003019	MW-2 DEEP	SM 4500-CN-E	WETA/19060		
60114003020	MW-3 DEEP	SM 4500-CN-E	WETA/19060		
60114003021	MW-4 SHALLOW	SM 4500-CN-E	WETA/19060		
60114003022	MW-4 DEEP	SM 4500-CN-E	WETA/19060		
60114003023	MW-5 SHALLOW	SM 4500-CN-E	WETA/19060		
60114003024	MW-5 DEEP	SM 4500-CN-E	WETA/19060		
60114003025	MW-6 SHALLOW	SM 4500-CN-E	WETA/19060		
60114003026	MW-6 DEEP	SM 4500-CN-E	WETA/19060		

Appendix E

Flow Cross Sections



DR-1 CROSS SECTION



03 **CROSS SECTION AT DR-1**
SCALE - 1" = 4'

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF ANDERSON ENGINEERING COMPANY, INC., 977 WEST 2100 SOUTH,
SALT LAKE CITY, UTAH, 84119 AND SHALL NOT BE COPIED, REDUCED, OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

General Notes		
NOTE: COULD NOT OBTAIN FLOW DUE TO LARGE ICE SHELF OVER RIVER		
Scale in Feet		
0 2 4		
No.	Revision/Issue	Date

ATLANTIC RICHFIELD COMPANY



ANDERSON
ENGINEERING COMPANY, INC.

DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

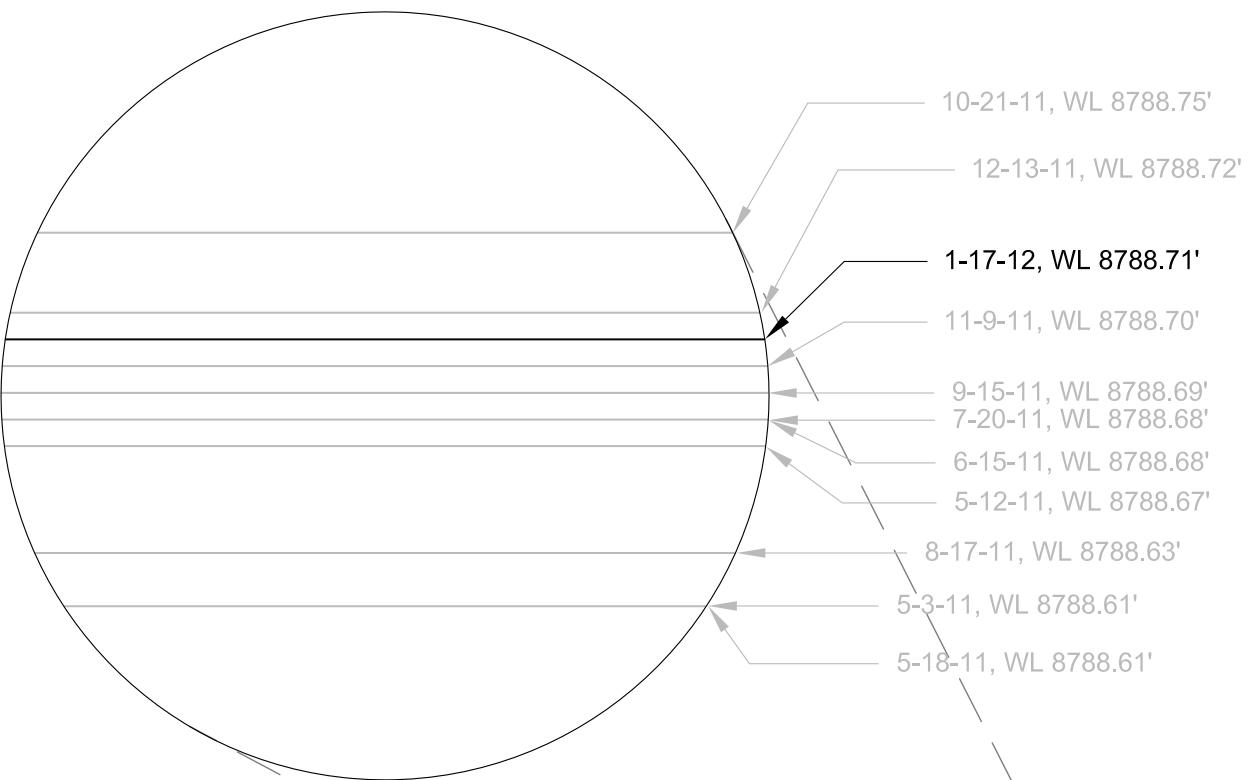
RICO SURFACE WATER SAMPLING

DOLORES RIVER CROSS SECTION AT SAMPLING STATION DR-1

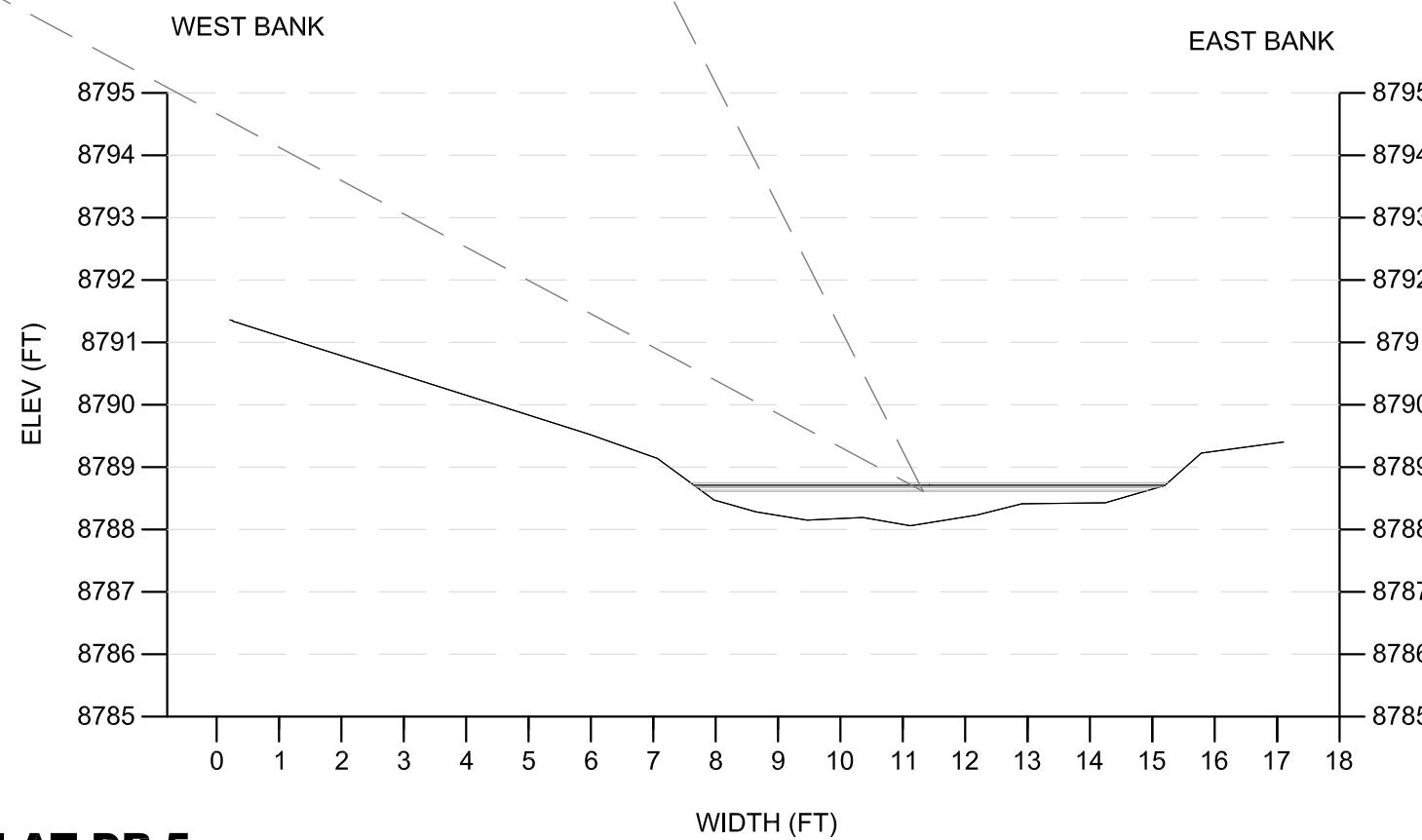
RICO, CO

Project	Figure
Date	17-JAN-2012
Scale	

3



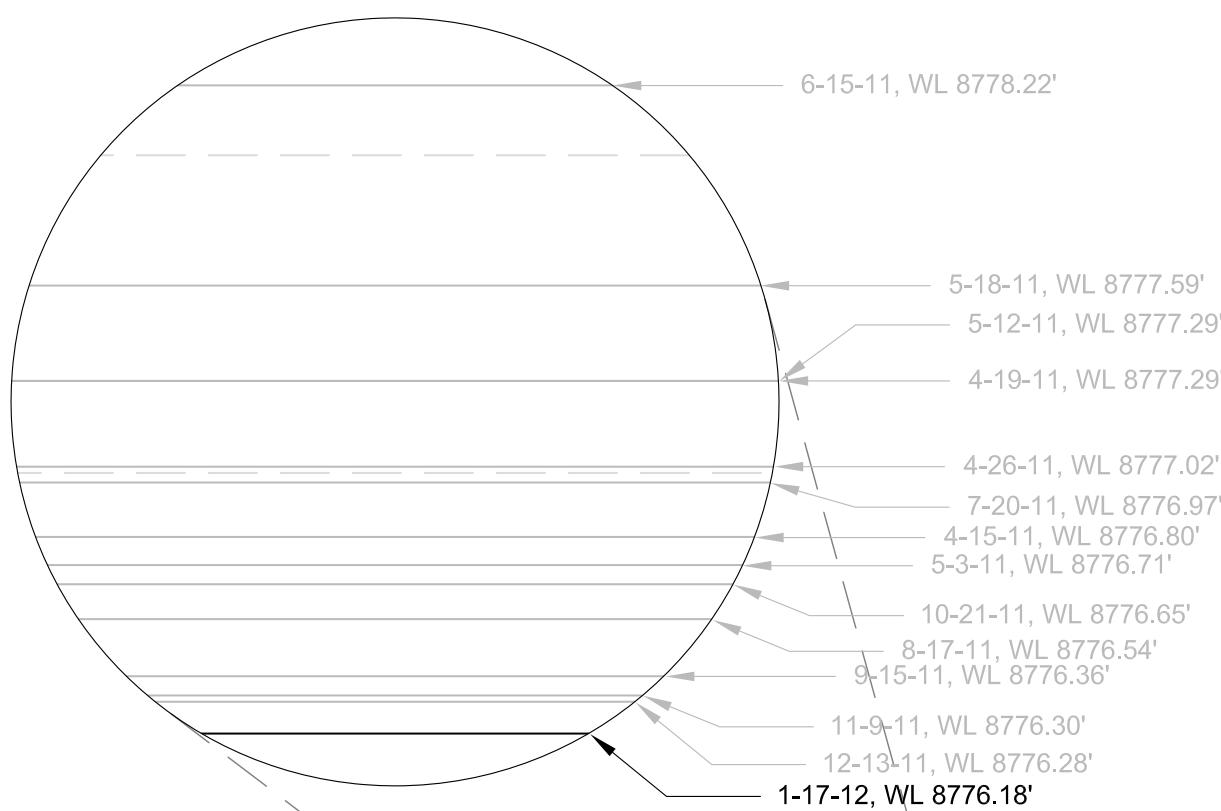
DR-5 CROSS SECTION



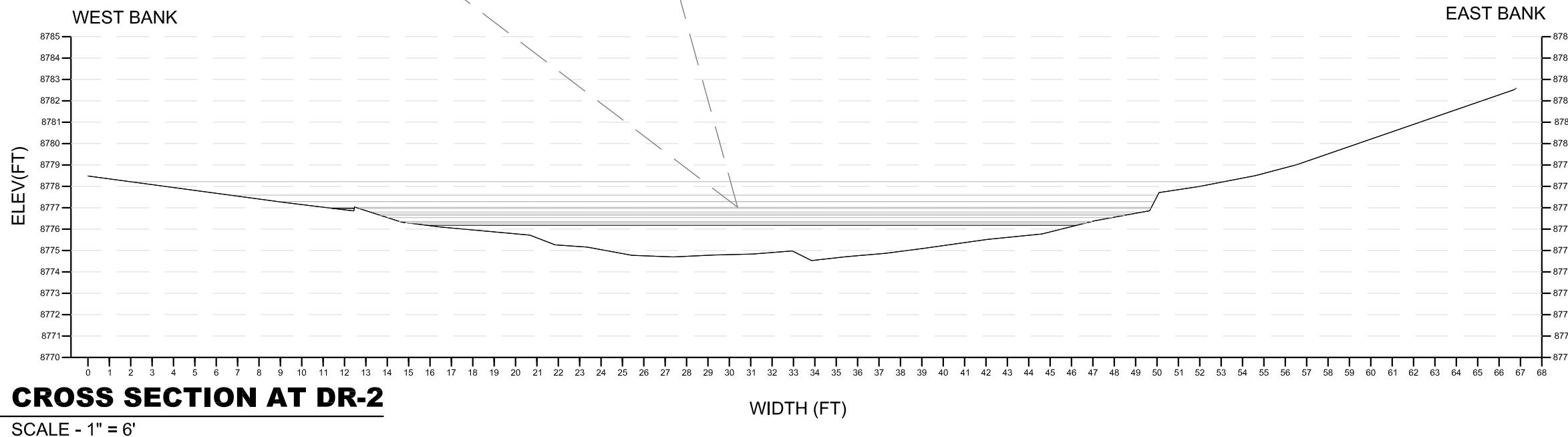
CROSS SECTION AT DR-5
SCALE - 1" = 3'

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF ANDERSON ENGINEERING COMPANY, INC., 977 WEST 2100 SOUTH,
SALT LAKE CITY, UTAH, 84119 AND SHALL NOT BE COPIED, REDUCED, OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

General Notes		
Scale in Feet 		
No.	Revision/Issue	Date
ATLANTIC RICHFIELD COMPANY		
ANDERSON ENGINEERING COMPANY, INC.		
DRAWN BY: MAD ENGINEER: CS, MAD APPROVED:		
RICO SURFACE WATER SAMPLING POND 8 EMBANKMENT CROSS SECTION AT SAMPLING STATION DR-5 RICO, CO		
Project Date Scale	Figure 17-JAN-2012	4



DR-2 CROSS SECTION



THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF ANDERSON ENGINEERING COMPANY, INC., 977 WEST 2100 SOUTH,
SALT LAKE CITY, UTAH, 84119 AND SHALL NOT BE COPIED, REDUCED, OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

General Notes		
Scale in Feet		
0	3	6
No.	Revision/Issue	Date

ATLANTIC RICHFIELD
COMPANY



ANDERSON
ENGINEERING COMPANY, INC.

DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

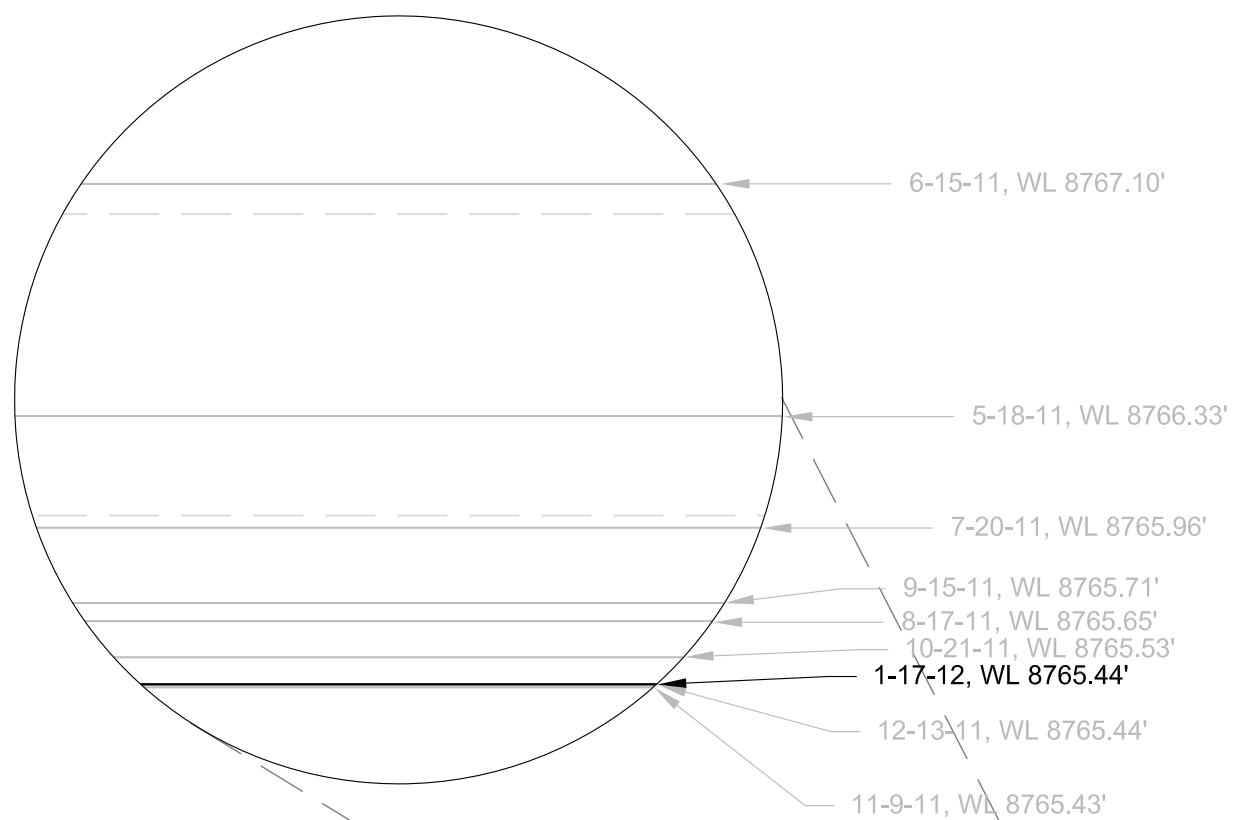
**RICO SURFACE
WATER SAMPLING**

**DOLORES RIVER CROSS
SECTION AT SAMPLING
STATION DR-2**

RICO, CO

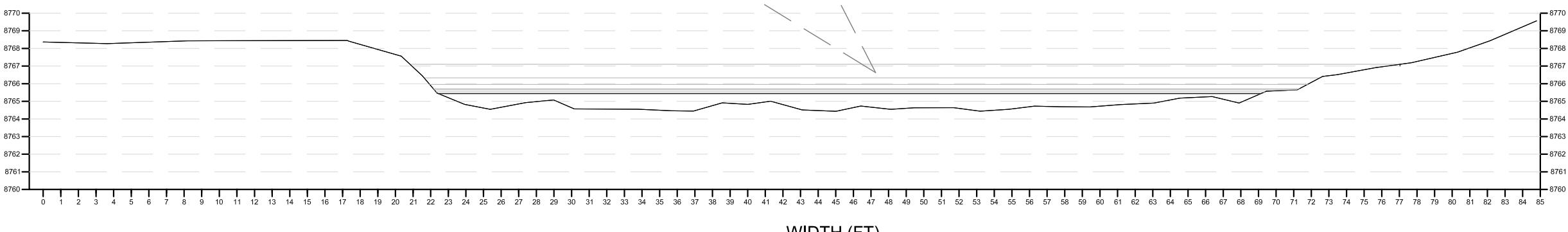
Project	Figure
Date	17-JAN-2012
Scale	

5



DR-7 CROSS SECTION

WEST BANK



CROSS SECTION AT DR-7

SCALE - 1" = 7'

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF ANDERSON ENGINEERING COMPANY, INC., 977 WEST 2100 SOUTH, SALT LAKE CITY, UTAH, 84119 AND SHALL NOT BE COPIED, REDUCED, OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

General Notes

Scale in Feet

A horizontal scale bar with tick marks at 0, 3.5, and 7. The text "Scale in Feet" is written above the bar.

No.	Revision / Issue	Date

ATLANTIC RICHFIELD
COMPANY



 ANDERSON
ENGINEERING COMPANY, INC.

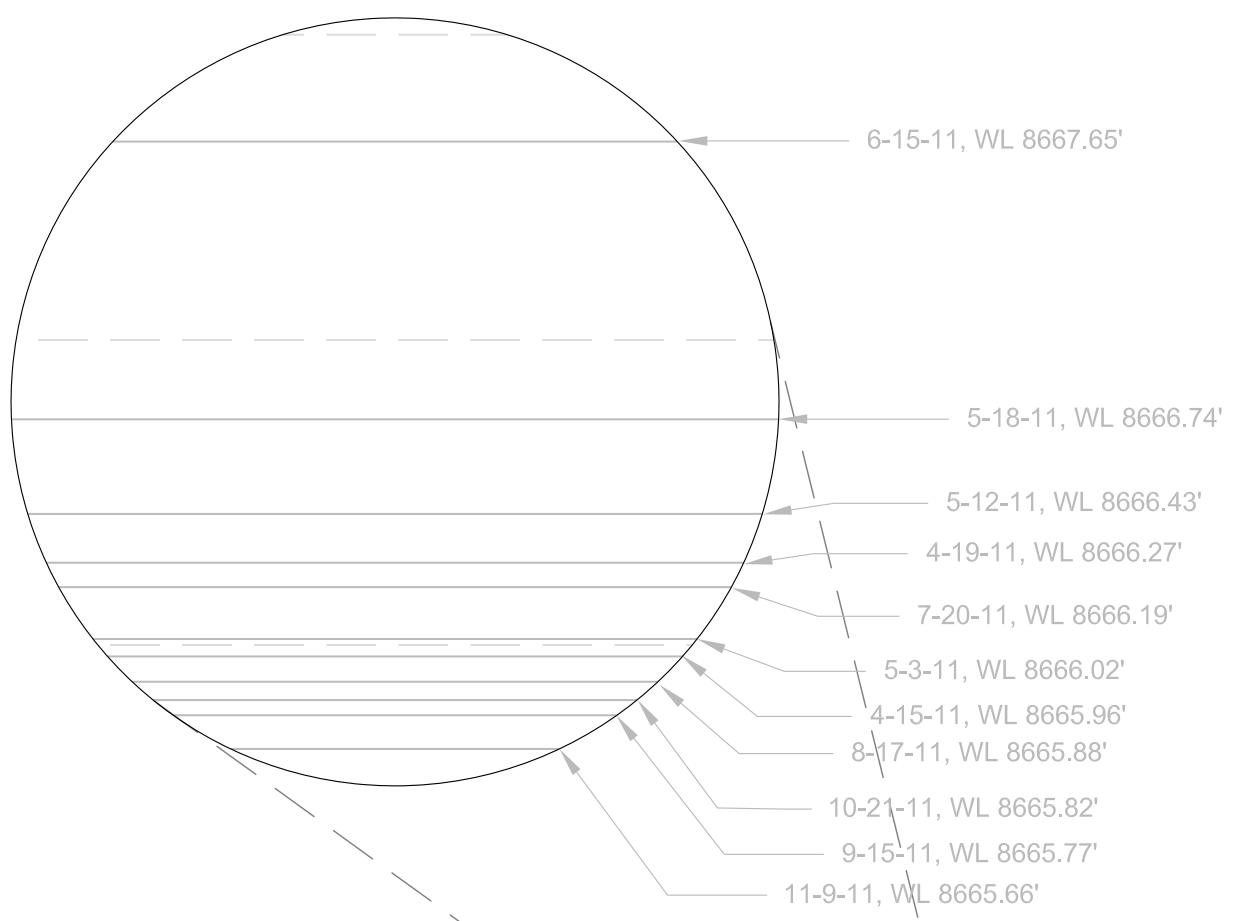
DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

RICO SURFACE WATER SAMPLING

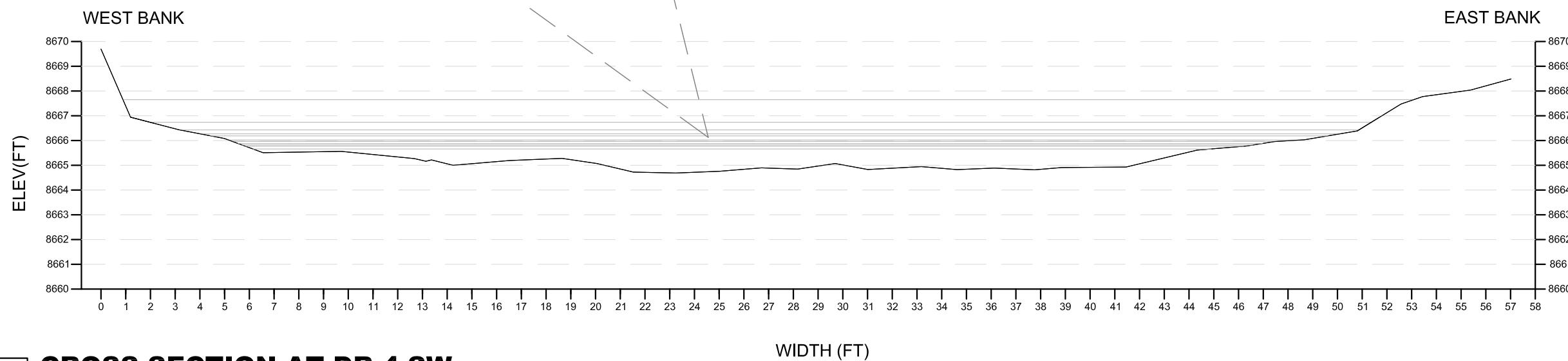
DOLORES RIVER CROSS SECTION AT SAMPLING STATION DR-7

RICO CO

Project	Figure
Date	17-JAN-2012
Scale	



DR-4-SW CROSS SECTION



CROSS SECTION AT DR-4-SW

SCALE - 1" = 5'

General Notes		
NOTE: COULD NOT OBTAIN FLOW DUE TO LARGE ICE SHELF OVER RIVER		
No.	Revision/Issue	Date

ATLANTIC RICHFIELD COMPANY



ANDERSON
ENGINEERING COMPANY, INC.

DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

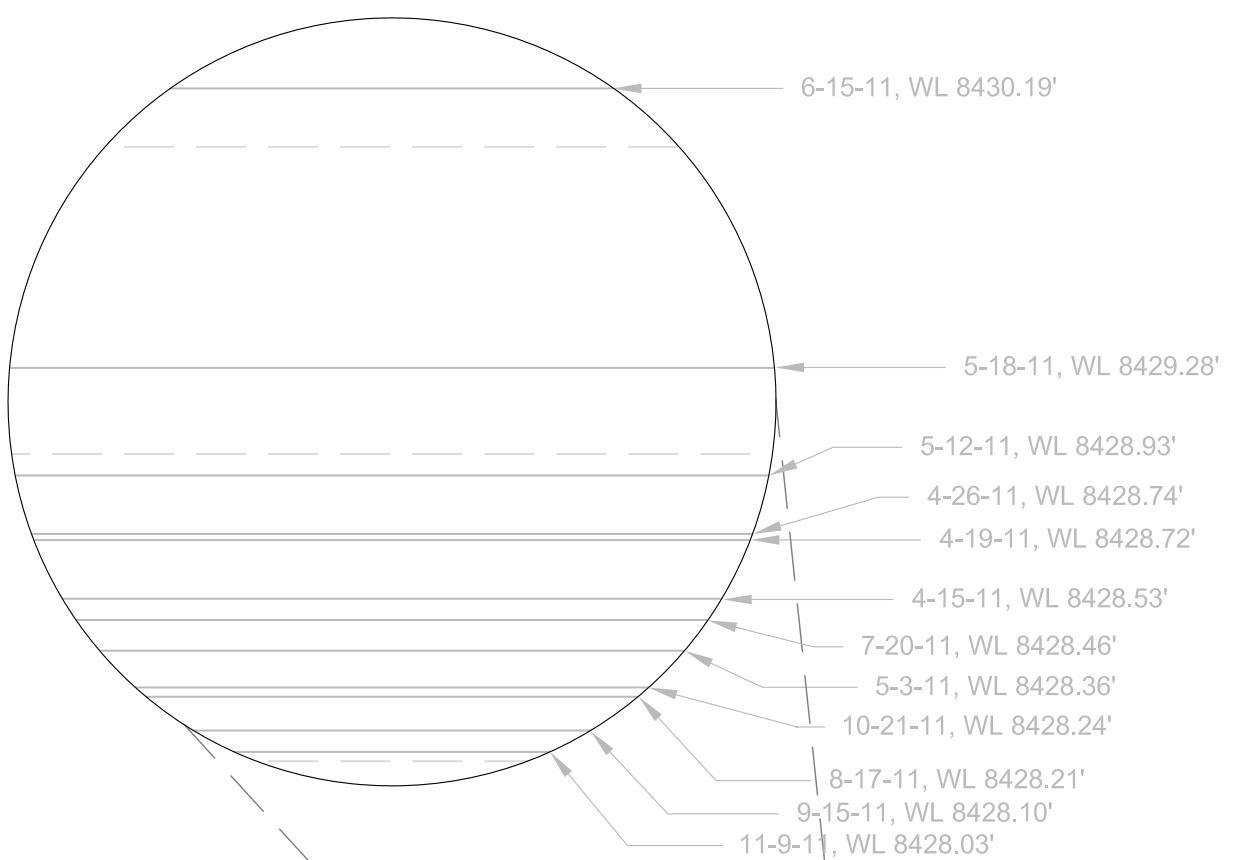
RICO SURFACE
WATER SAMPLING

DOLORES RIVER CROSS
SECTION AT SAMPLING
STATION DR-4-SW

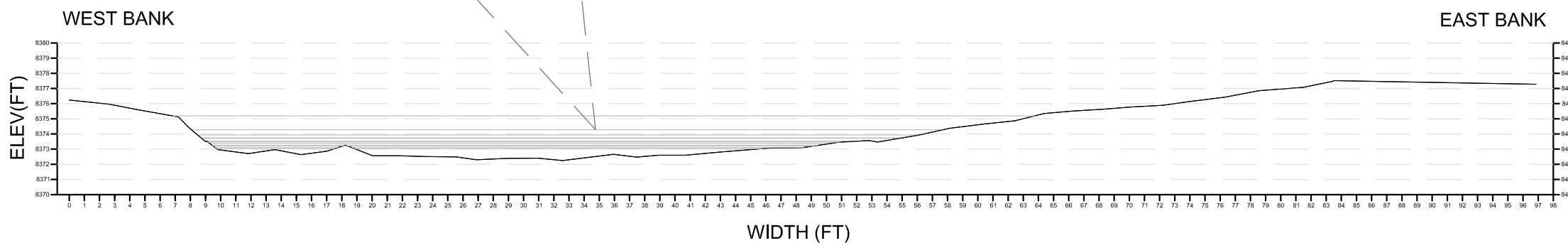
RICO, CO

Project	Figure
Date	17-JAN-2012
Scale	

7



DR-G CROSS SECTION



CROSS SECTION AT DR-G
SCALE - 1" = 9'

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF ANDERSON ENGINEERING COMPANY, INC., 977 WEST 2100 SOUTH,
SALT LAKE CITY, UTAH, 84119 AND SHALL NOT BE COPIED, REDUCED, OR REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

General Notes

NOTE: COULD NOT OBTAIN
FLOW DUE TO LARGE ICE
SHELF OVER RIVER

Scale in Feet
0 4.5 9

No.	Revision/Issue	Date

ATLANTIC RICHFIELD
COMPANY



ANDERSON
ENGINEERING COMPANY, INC.

DRAWN BY: MAD
ENGINEER: CS, MAD
APPROVED:

RICO SURFACE
WATER SAMPLING

DOLORES RIVER CROSS
SECTION AT SAMPLING
STATION DR-G

RICO, CO

Project	Figure
Date 17-JAN-2012	
Scale	

8

Appendix F
Chain of Custody Records



**Atlantic
Richfield
Company**

A BP affiliated company

Chain of Custody Record

Project Name: Rico Water Sampling January 2012

BP BU/AR Region/Enfos Segment:

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy): 02/02/17

Laboratory Copy

Page 1 of 5

On-site	Time:	Temp:
Off-site	Time:	Temp:
Sky Conditions:		
Meteorological Events:		
Wind Speed:		Direction:

Lab Name: Pace Analytical Services Address: 9608 Loiret Blvd Lenexa, KS 66219				BP/AR Facility No.: BP/AR Facility Address: Site Lat/Long:				Consultant/Contractor: Address:									
Lab PM: Colleen Clyne Tele/Fax:				California Global ID No.: Enfos Project No.: Provision or OOC (circle one)				Consultant/Contractor Project No.: Consultant/Contractor PM: Tele/Fax:									
BP/AR EBM: Address:				Phase/WBS: Sub Phase/Task:				Report Type & QC Level: E-mail EDD To:									
Tele/Fax:				Cost Element:				Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)									
Lab Bottle Order No:				Matrix		Laboratory No.	No. of Containers	Preservative			Requested Analysis			Sample Point Lat/Long and Comments			
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid			H ₂ SO ₄	HNO ₃	HCl	Methanol	NaOH	Total Metals / Dissolved Solids		Dissolved Metals	Acidity/TDS/TSS / Salinity	Granide
1	DR-1			X						X	X	X	X	X			(BPM) (BPA) (BPA) (BPA) (BPA)
2	DR-2				X					X	X	X	X	X			
3	DR-3				X					X	X	X	X	X			
4	DR-4				X					X	X	X	X	X			
5	DR-5				X					X	X	X	X	X			
6	DR-6				X					X	X	X	X	X			
7																	
8																	
9																	
10																	
Sampler's Name: Mark DeFriez				Relinquished By / Affiliation				Date	Time	Accepted By / Affiliation				Date	Time		
Sampler's Company: Anderson Engineering Co., Inc.				Mark DeFriez				1/19/12	2pm	Mark DeFriez				1/20/12	8:50		
Shipment Date:																	
Shipment Method:																	
Shipment Tracking No:																	
Special Instructions:																	
Custody Seals In Place: Yes / No		Temp Blank: Yes / No		Cooler Temp on Receipt: 25°F/0		Trip Blank: Yes / No		MS/MSD Sample Submitted: Yes / No									



A BP affiliated company

184875

Page 2 of 5

Chain of Custody Record

Project Name: Rico Water Sampling January 2012

BP BU/AR Region/Envos Segment:

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy): 02/02/12

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: <u>Pace Analytical Services</u>	BP/AR Facility No.:	Consultant/Contractor:
Address: <u>9608 Loinet Blvd</u>	BP/AR Facility Address:	Address:
<u>Lenexa, KS 66219</u>	Site Lat/Long:	Consultant/Contractor Project No.:
Lab PM: <u>Colleen Clyne</u>	California Global ID No.:	Consultant/Contractor PM:
Tele/Fax:	Envos Project No.:	Tele/Fax:
BP/AR EBM:	Provision or OOC (circle one)	Report Type & QC Level:
Address:	Phase/WBS:	E-mail EDD To:
Tele/Fax:	Sub Phase/Task:	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)
Cost Element:		

Item No.	Sample Description	Time	Date	Matrix	Laboratory No.	No. of Containers	Preservative					Requested Analysis					6041403 Sample Point Lat/Long and Comments
							Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	NaOH	Total Metals / Inorganics	Dissolved Solids/ Alkalinity / TDS	Salinity	Cyanide	pH
1	DR-7			X		5	X	X	X		X	X	X	X	X		
2	DR-8			X		5	X	X	X		X	X	X	X	X		
3	DR-4-SW			X		5	X		X		X	X	X	X	X		
4	DR-G			X		5	X	X	X		X	X	X	X	X		
5	FB			X		5	X	X	X		X	X	X	X	X		
6																	
7																	
8																	
9																	
10																	

Sampler's Name: <u>Mark DeFriez</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: <u>Anderson Engineering Co., Inc.</u>	<u>Mark DeFriez</u>	1/19/12	2pm	<u>Jerry Chen</u>	1/19/12	850
Shipment Date:						
Shipment Method:						
Shipment Tracking No.:						

Special Instructions:

Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 2.2 °C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No



184875

Page 3 of 5

Chain of Custody Record

Project Name: Rice Water Sampling January 2012

BP BU/AR Region/Envos Segment:

State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy): 02/02/12

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: <u>Pace Analytical Services</u>				BP/AR Facility No.:				Consultant/Contractor:								
Address: <u>9608 Loinet Blvd</u>				BP/AR Facility Address:				Address:								
<u>Lenexa, KS 66219</u>				Site Lat/Long:												
Lab PM: <u>Colleen Clyne</u>				California Global ID No.:				Consultant/Contractor Project No.:								
Tele/Fax:				Envos Project No.:				Consultant/Contractor PM:								
BP/AR EBM:				Provision or OOC (circle one)				Tele/Fax:								
Address:				Phase/WBS:				Report Type & QC Level:								
Tele/Fax:				Sub Phase/Task:				E-mail EDD To:								
Lab Bottle Order No:				Cost Element:				Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)								
Item No.	Sample Description	Time	Date	Matrix		Laboratory No.	No. of Containers	Preservative			Total Metals / Organics Dissolved Metals Alkalinity/TDS/ Salinity	Craniide	pH	Requested Analysis	601403 Sample Point Lat/Long and Comments	
				Soil/Solid	Water/Liquid			Air	Unpreserved	H ₂ SO ₄						
1	GW-1			X			5	X	X	X	X	X	X			
2	GW-7			X			5	X	X	X	X	X	X	(BPM) (BPA) (BPN) (BPP) (BPD) (BBD)	013	
3	EB-1			X			5	X	X	X	X	X	X		014	
4	EB-2			X			5	X	X	X	X	X	X		015	
5	GW-3			X			5	X	X	X	X	X	X		016	
6	GW-5			X			5	X	X	X	X	X	X			
7																
8																
9																
10																

Sampler's Name: <u>Mark DeFriez</u>	Relinquished By / Affiliation			Date	Time	Accepted By / Affiliation		Date	Time
Sampler's Company: <u>Anderson Engineering Co., Inc.</u>	<u>2/10/12</u>			<u>1/19/12</u>	<u>2pm</u>	<u>Jerry DeFriez</u>		<u>1/19/12</u>	<u>650</u>
Shipment Date:									
Shipment Method:									
Shipment Tracking No:									
Special Instructions:									
Custody Seals In Place: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Temp Blank: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Cooler Temp on Receipt: <u>26 °F/C</u>			Trip Blank: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	MS/MSD Sample Submitted: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			



bp
A BP affiliated company

184875

Page 14 of 15

Chain of Custody Record

Project Name: Rico Water Sampling January 2012
 BP BU/AR Region/Envos Segment:
 State or Lead Regulatory Agency:

Requested Due Date (mm/dd/yy): 02/02/12

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: <u>Pace Analytical Services</u>	BP/AR Facility No.:	Consultant/Contractor:
Address: <u>9608 Loinet Blvd</u>	BP/AR Facility Address:	Address:
<u>Lenexa, KS 66219</u>	Site Lat/Long:	
Lab PM: <u>Colleen Clyne</u>	California Global ID No.:	Consultant/Contractor Project No.:
Tele/Fax:	Envos Project No.:	Consultant/Contractor PM:
BP/AR EBM:	Provision or OOC (circle one)	Tele/Fax:
Address:	Phase/WBS:	Report Type & QC Level:
Tele/Fax:	Sub Phase/Task:	E-mail EDD To:
	Cost Element:	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)

Item No.	Sample Description	Time	Date	Matrix	Laboratory No.	No. of Containers	Preservative				Requested Analysis				6211403 Sample Point Lat/Long and Comments						
							Soil/Solid	Water/Liquid	Air	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	NaOH	Total Metals / Dissolved Solids	Dissolved Solids / Salinity	Salinity	Cyanide	pH	
1	MW-1 SHALLOW			X		5	X	X		X	X	X	X	X	X	X	X				(BPm) (CR3w) (CR3n) (BP3e) (BP3d) 07
2	MW-1 DEEP			X		5	X	X		X	X	X	X	X	X	X	X				↓ 07
3	MW-2 SHALLOW			X		5	X	X		X	X	X	X	X	X	X	X				(BPm) (CR3d) (BP3n) (BP3e) (BP3c) 08
4	MW-2 DEEP			X		5	X	X		X	X	X	X	X	X	X	X				(BPm) (CR3d) (BP3n) (BP3e) (BP3c) 08
5	MW-3 SHALLOW			X		5	X	X		X	X	X	X	X	X	X	X				(BPm) (CR3w) (CR3n) (BP3e) (BP3d) 07
6	MW-3 DEEP			X		5	X	X		X	X	X	X	X	X	X	X				(BPm) (CR3w) (CR3n) (BP3e) (BP3d) 07
7																					
8																					
9																					
10																					

Sampler's Name: <u>Mark DeFriez</u>	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: <u>Anderson Engineering Co., Inc.</u>	<u>26 D. 20</u>	<u>1/19/12</u>	<u>2pm</u>	<u>Jerry S. Rea</u>	<u>1/20/12</u>	<u>850</u>
Shipment Date:						
Shipment Method:						
Shipment Tracking No.:						

Special Instructions:	Custody Seals In Place: Yes / No	Temp Blank: Yes / No	Cooler Temp on Receipt: <u>30 °F/C</u>	Trip Blank: Yes / No	MS/MSD Sample Submitted: Yes / No
-----------------------	----------------------------------	----------------------	--	----------------------	-----------------------------------

Sample Condition Upon Receipt – ESI Tech Specs
Client Name: BP Anderson
Project #: 60114003
Courier: Fed Ex UPS USPS Client Commercial Pace Other

Optional
Proj Due Date:
Proj Name:

1/11/12

Tracking #: 8987 2641 3298 **Pace Shipping Label Used?** Yes No
Custody Seal on Cooler/Box Present: Yes No **Seals intact:** Yes No
Packing Material: Bubble Wrap Bubble Bags Foam None Other
Thermometer Used: T-191 / T-194 **Type of Ice:** Wet Blue None **Samples received on ice, cooling process has begun.**
Cooler Temperature: 2.5, 2.2, 2.8, 3.0, 2.5

(b) circle one)

Date and initials of person examining contents: DM 1/20/12 T-194

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>ptt</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Includes date/time/ID/analyses Matrix:	<u>water</u>	13.
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed <u>DM</u> Lot # of added preservative
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank lot # (if purchased):	<u>NA</u>	15.
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State: <u>NY</u>

Client Notification/ Resolution:

Copy COC to Client? N

Field Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

Comments/ Resolution: Emailed mark DeFries about collection date & time 1/20/12

Start: 1015 Start:

End: 1030 End:

Temp: 1023/12 Temp:

Project Manager Review: AMW

Date: 1/23/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the NCDENR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Appendix G

Field Photos

January 2012 Field Photos



Cross Section at Station DR-1



Cross Section at Station DR-5



Cross Section at Station DR-7



Cross Section at Station DR-2

January 2012 Field Photos



Cross Section at Station DR-4-SW



Cross Section at Station DR-G

Appendix H
Field Log Book Records

1/17/12

DR-1

BM EL

WL EL

C NO

Velocities Could not obtain
velocities due to excessive
ice build-up in river

pH 8.27 EC 285 μS
DO 2.34 ppm T 35.2°F

Collected: 9:00 am

photo #:

1/17/12

DR-2

BM EL 4.82'

WL EL 11.23'

East → West

Velocities: 0.1, 0.2, 0.2, 0.4, 0.6,
1.0, 1.2, 0.6, 0.8, 0.4, 0.8, 0.6,
0.4, 0.8, 0.2, 0.1

pH 8.41 EC 340 μS
DO 2.56 ppm T 35.7°F

Collected: 2:30 pm

photo #:

1/17/12

DR-4

pH 7.15

DO 1.99 ppm

EC 1175 μS

T 46.0°F

collected: 2:00 pm

DR-5

BM EL 5.31'

WL EL 7.96'

pH 6.20

DO 2.66 ppm

EC 1175 μS

T 35.2°F

photo#

collected: 2:20 pm

1/17/12

DR-6

pH 6.19

DO 2.56 ppm

EC 1147 μS

T 34.3°F

collected: 2:45 pm

FB

pH 8.47

DO 2.56 ppm

EC 0.0 μS

T 40.2°F

Collected: 10:45 am

1/17/12

DR-3 → North parshall flame
pH 7.48 EC 1245 μS
DO 2.13 ppm T 52.0°F

collected: 10:30 am

DR-8 → Duplicate of DR-3
pH 7.48 EC 1245 μS
DO 2.13 ppm T 52.0°F

collected: 10:40 am

1/17/12

DR-7
BM EL 7.60'
WL EL 11.76'

~~West~~ East → West

Velocities: 0.2, 0.6, 0.6, 0.6, 0.8,
1.6, 0.5, 0.6, 0.8, 1.7, 2.1, 2.2,
1.3, 0.9, 2.0, 0.8, 0.8, 0.6, 0.9,
0.6, 0.4

pH 9.08 EC 607 μS
DO 2.88 ppm T 33.0°F

Collected: 3:00 pm

photo #: _____

1/17/12

DR-4-SW → Below Silver Swan
BM EL CNO
WL EL

pH 6.2 EC 548 μ s
DO 2.92 ppm T 31.0°F

Velocities: CNO due to
excessive ice build-up in
river

T

Collected: 3:45 pm

photo #: _____

1/17/12

DR-G
BM EL CNO
WL EL

Velocities: CNO due to
excessive ice build-up in
river

pH 9.04 EC 612 μ s
DO 2.98 ppm T 30.8°F

Collected:

photo #:

1/18/12

MW-1 SHALLOW

Depth 6.38' Collected 11:15am
pH 7.39 EC 1139 μS
DO 1.79 ppm T 42.9°F

MW-1 DEEP

Depth 9.14' Collected 11:25am
pH 7.81 EC 1093 μS
DO 1.68 ppm T 44.7°F

MW-2 SHALLOW

Depth DRY Collected
pH EC
DO T

MW-2 DEEP

Depth 10.20' Collected 11:45am
pH 7.60 EC 1122 μS
DO 1.56 ppm T 50.0°F

1/18/12

MW-3 SHALLOW

Depth Collected
pH DRY EC
DO T

MW-3 DEEP 10:10am

Depth 16.37" Collected
pH 7.25 EC 1130 μS
DO 1.62 ppm T 49.8°F

MW-4 SHALLOW

Depth 12.07' Collected 10:45am
pH 6.65 EC 1341 μS
DO 1.67 ppm T 50.1°F

MW-4 DEEP

Depth 12.01' Collected 10:55am
pH 7.01 EC 1385 μS
DO 1.70 ppm T 51.6°F

1/18 112

MW-5 SHALLOW

Depth 16.53' Collected 9:30 am
pH 5.94 EC 250 mS
DO 1.67 ppm T 49.2°F

MW-5 DEEP

Depth 17.38
Collected 9:35 am
pH 6.86 EC 235 mS
DO 1.76 ppm T 48.5°F

MW-6 SHALLOW

Depth 23.51'
Collected 9:00 am
pH 6.94 EC 205 mS
DO 1.79 ppm T 48.0°F

MW-6 DEEP

Depth 23.39'
Collected 9:10 am
pH 7.03 EC 1378 mS
DO 1.51 ppm T 51.4°F

Appendix I

North Flume OTT PLS Data with Flowrates

		Depth Reading	
Date, Time	(ft)	Flowrate (cfs)	Flowrate (gpm)
12/14/2011 18:00	0.66	1.64	734.9
12/14/2011 19:00	0.66	1.64	734.9
12/14/2011 20:00	0.66	1.64	734.9
12/14/2011 21:00	0.66	1.64	734.9
12/14/2011 22:00	0.66	1.64	734.9
12/14/2011 23:00	0.66	1.64	734.9
12/15/2011 0:00	0.66	1.64	734.9
12/15/2011 1:00	0.66	1.64	734.9
12/15/2011 2:00	0.66	1.64	734.9
12/15/2011 3:00	0.66	1.64	734.9
12/15/2011 4:00	0.66	1.64	734.9
12/15/2011 5:00	0.66	1.64	734.9
12/15/2011 6:00	0.66	1.64	734.9
12/15/2011 7:00	0.66	1.64	734.9
12/15/2011 8:00	0.66	1.64	734.9
12/15/2011 9:00	0.66	1.64	734.9
12/15/2011 10:00	0.66	1.64	734.9
12/15/2011 11:00	0.66	1.64	734.9
12/15/2011 12:00	0.66	1.64	734.9
12/15/2011 13:00	0.66	1.64	734.9
12/15/2011 14:00	0.66	1.64	734.9
12/15/2011 15:00	0.66	1.64	734.9
12/15/2011 16:00	0.66	1.64	734.9
12/15/2011 17:00	0.66	1.64	734.9
12/15/2011 18:00	0.66	1.64	734.9
12/15/2011 19:00	0.66	1.64	734.9
12/15/2011 20:00	0.66	1.64	734.9
12/15/2011 21:00	0.66	1.64	734.9
12/15/2011 22:00	0.66	1.64	734.9
12/15/2011 23:00	0.66	1.64	734.9
12/16/2011 0:00	0.66	1.64	734.9
12/16/2011 1:00	0.66	1.64	734.9
12/16/2011 2:00	0.66	1.64	734.9
12/16/2011 3:00	0.66	1.64	734.9
12/16/2011 4:00	0.66	1.64	734.9
12/16/2011 5:00	0.66	1.64	734.9
12/16/2011 6:00	0.66	1.64	734.9
12/16/2011 7:00	0.66	1.64	734.9
12/16/2011 8:00	0.66	1.64	734.9
12/16/2011 9:00	0.66	1.64	734.9
12/16/2011 10:00	0.66	1.64	734.9
12/16/2011 11:00	0.66	1.64	734.9
12/16/2011 12:00	0.66	1.64	734.9
12/16/2011 13:00	0.66	1.64	734.9

12/16/2011 14:00	0.66	1.64	734.9
12/16/2011 15:00	0.66	1.64	734.9
12/16/2011 16:00	0.66	1.64	734.9
12/16/2011 17:00	0.66	1.64	734.9
12/16/2011 18:00	0.66	1.64	734.9
12/16/2011 19:00	0.66	1.64	734.9
12/16/2011 20:00	0.66	1.64	734.9
12/16/2011 21:00	0.66	1.64	734.9
12/16/2011 22:00	0.66	1.64	734.9
12/16/2011 23:00	0.66	1.64	734.9
12/17/2011 0:00	0.66	1.64	734.9
12/17/2011 1:00	0.66	1.64	734.9
12/17/2011 2:00	0.66	1.64	734.9
12/17/2011 3:00	0.66	1.64	734.9
12/17/2011 4:00	0.66	1.64	734.9
12/17/2011 5:00	0.66	1.64	734.9
12/17/2011 6:00	0.66	1.64	734.9
12/17/2011 7:00	0.66	1.64	734.9
12/17/2011 8:00	0.66	1.64	734.9
12/17/2011 9:00	0.66	1.64	734.9
12/17/2011 10:00	0.66	1.64	734.9
12/17/2011 11:00	0.66	1.64	734.9
12/17/2011 12:00	0.66	1.64	734.9
12/17/2011 13:00	0.66	1.64	734.9
12/17/2011 14:00	0.66	1.64	734.9
12/17/2011 15:00	0.66	1.64	734.9
12/17/2011 16:00	0.66	1.64	734.9
12/17/2011 17:00	0.65	1.60	718.1
12/17/2011 18:00	0.66	1.64	734.9
12/17/2011 19:00	0.66	1.64	734.9
12/17/2011 20:00	0.66	1.64	734.9
12/17/2011 21:00	0.66	1.64	734.9
12/17/2011 22:00	0.66	1.64	734.9
12/17/2011 23:00	0.66	1.64	734.9
12/18/2011 0:00	0.66	1.64	734.9
12/18/2011 1:00	0.66	1.64	734.9
12/18/2011 2:00	0.66	1.64	734.9
12/18/2011 3:00	0.66	1.64	734.9
12/18/2011 4:00	0.66	1.64	734.9
12/18/2011 5:00	0.66	1.64	734.9
12/18/2011 6:00	0.66	1.64	734.9
12/18/2011 7:00	0.66	1.64	734.9
12/18/2011 8:00	0.65	1.60	718.1
12/18/2011 9:00	0.66	1.64	734.9
12/18/2011 10:00	0.65	1.60	718.1
12/18/2011 11:00	0.66	1.64	734.9
12/18/2011 12:00	0.66	1.64	734.9

12/18/2011 13:00	0.66	1.64	734.9
12/18/2011 14:00	0.66	1.64	734.9
12/18/2011 15:00	0.66	1.64	734.9
12/18/2011 16:00	0.66	1.64	734.9
12/18/2011 17:00	0.65	1.60	718.1
12/18/2011 18:00	0.66	1.64	734.9
12/18/2011 19:00	0.65	1.60	718.1
12/18/2011 20:00	0.66	1.64	734.9
12/18/2011 21:00	0.66	1.64	734.9
12/18/2011 22:00	0.66	1.64	734.9
12/18/2011 23:00	0.66	1.64	734.9
12/19/2011 0:00	0.66	1.64	734.9
12/19/2011 1:00	0.65	1.60	718.1
12/19/2011 2:00	0.65	1.60	718.1
12/19/2011 3:00	0.66	1.64	734.9
12/19/2011 4:00	0.66	1.64	734.9
12/19/2011 5:00	0.65	1.60	718.1
12/19/2011 6:00	0.66	1.64	734.9
12/19/2011 7:00	0.66	1.64	734.9
12/19/2011 8:00	0.66	1.64	734.9
12/19/2011 9:00	0.66	1.64	734.9
12/19/2011 10:00	0.66	1.64	734.9
12/19/2011 11:00	0.66	1.64	734.9
12/19/2011 12:00	0.66	1.64	734.9
12/19/2011 13:00	0.65	1.60	718.1
12/19/2011 14:00	0.66	1.64	734.9
12/19/2011 15:00	0.65	1.60	718.1
12/19/2011 16:00	0.66	1.64	734.9
12/19/2011 17:00	0.65	1.60	718.1
12/19/2011 18:00	0.65	1.60	718.1
12/19/2011 19:00	0.65	1.60	718.1
12/19/2011 20:00	0.65	1.60	718.1
12/19/2011 21:00	0.65	1.60	718.1
12/19/2011 22:00	0.66	1.64	734.9
12/19/2011 23:00	0.65	1.60	718.1
12/20/2011 0:00	0.66	1.64	734.9
12/20/2011 1:00	0.66	1.64	734.9
12/20/2011 2:00	0.66	1.64	734.9
12/20/2011 3:00	0.66	1.64	734.9
12/20/2011 4:00	0.66	1.64	734.9
12/20/2011 5:00	0.66	1.64	734.9
12/20/2011 6:00	0.66	1.64	734.9
12/20/2011 7:00	0.65	1.60	718.1
12/20/2011 8:00	0.66	1.64	734.9
12/20/2011 9:00	0.66	1.64	734.9
12/20/2011 10:00	0.65	1.60	718.1
12/20/2011 11:00	0.65	1.60	718.1

12/20/2011 12:00	0.66	1.64	734.9
12/20/2011 13:00	0.65	1.60	718.1
12/20/2011 14:00	0.66	1.64	734.9
12/20/2011 15:00	0.65	1.60	718.1
12/20/2011 16:00	0.65	1.60	718.1
12/20/2011 17:00	0.66	1.64	734.9
12/20/2011 18:00	0.65	1.60	718.1
12/20/2011 19:00	0.66	1.64	734.9
12/20/2011 20:00	0.66	1.64	734.9
12/20/2011 21:00	0.65	1.60	718.1
12/20/2011 22:00	0.66	1.64	734.9
12/20/2011 23:00	0.65	1.60	718.1
12/21/2011 0:00	0.66	1.64	734.9
12/21/2011 1:00	0.65	1.60	718.1
12/21/2011 2:00	0.65	1.60	718.1
12/21/2011 3:00	0.66	1.64	734.9
12/21/2011 4:00	0.66	1.64	734.9
12/21/2011 5:00	0.65	1.60	718.1
12/21/2011 6:00	0.65	1.60	718.1
12/21/2011 7:00	0.66	1.64	734.9
12/21/2011 8:00	0.65	1.60	718.1
12/21/2011 9:00	0.65	1.60	718.1
12/21/2011 10:00	0.65	1.60	718.1
12/21/2011 11:00	0.65	1.60	718.1
12/21/2011 12:00	0.65	1.60	718.1
12/21/2011 13:00	0.65	1.60	718.1
12/21/2011 14:00	0.65	1.60	718.1
12/21/2011 15:00	0.65	1.60	718.1
12/21/2011 16:00	0.65	1.60	718.1
12/21/2011 17:00	0.65	1.60	718.1
12/21/2011 18:00	0.65	1.60	718.1
12/21/2011 19:00	0.65	1.60	718.1
12/21/2011 20:00	0.65	1.60	718.1
12/21/2011 21:00	0.65	1.60	718.1
12/21/2011 22:00	0.65	1.60	718.1
12/21/2011 23:00	0.65	1.60	718.1
12/22/2011 0:00	0.65	1.60	718.1
12/22/2011 1:00	0.65	1.60	718.1
12/22/2011 2:00	0.65	1.60	718.1
12/22/2011 3:00	0.65	1.60	718.1
12/22/2011 4:00	0.65	1.60	718.1
12/22/2011 5:00	0.65	1.60	718.1
12/22/2011 6:00	0.65	1.60	718.1
12/22/2011 7:00	0.65	1.60	718.1
12/22/2011 8:00	0.65	1.60	718.1
12/22/2011 9:00	0.65	1.60	718.1
12/22/2011 10:00	0.65	1.60	718.1

12/22/2011 11:00	0.65	1.60	718.1
12/22/2011 12:00	0.65	1.60	718.1
12/22/2011 13:00	0.65	1.60	718.1
12/22/2011 14:00	0.65	1.60	718.1
12/22/2011 15:00	0.65	1.60	718.1
12/22/2011 16:00	0.65	1.60	718.1
12/22/2011 17:00	0.65	1.60	718.1
12/22/2011 18:00	0.65	1.60	718.1
12/22/2011 19:00	0.65	1.60	718.1
12/22/2011 20:00	0.66	1.64	734.9
12/22/2011 21:00	0.66	1.64	734.9
12/22/2011 22:00	0.66	1.64	734.9
12/22/2011 23:00	0.66	1.64	734.9
12/23/2011 0:00	0.66	1.64	734.9
12/23/2011 1:00	0.66	1.64	734.9
12/23/2011 2:00	0.66	1.64	734.9
12/23/2011 3:00	0.66	1.64	734.9
12/23/2011 4:00	0.65	1.60	718.1
12/23/2011 5:00	0.66	1.64	734.9
12/23/2011 6:00	0.66	1.64	734.9
12/23/2011 7:00	0.66	1.64	734.9
12/23/2011 8:00	0.66	1.64	734.9
12/23/2011 9:00	0.66	1.64	734.9
12/23/2011 10:00	0.66	1.64	734.9
12/23/2011 11:00	0.66	1.64	734.9
12/23/2011 12:00	0.66	1.64	734.9
12/23/2011 13:00	0.65	1.60	718.1
12/23/2011 14:00	0.66	1.64	734.9
12/23/2011 15:00	0.66	1.64	734.9
12/23/2011 16:00	0.66	1.64	734.9
12/23/2011 17:00	0.66	1.64	734.9
12/23/2011 18:00	0.66	1.64	734.9
12/23/2011 19:00	0.66	1.64	734.9
12/23/2011 20:00	0.66	1.64	734.9
12/23/2011 21:00	0.66	1.64	734.9
12/23/2011 22:00	0.66	1.64	734.9
12/23/2011 23:00	0.66	1.64	734.9
12/24/2011 0:00	0.66	1.64	734.9
12/24/2011 1:00	0.66	1.64	734.9
12/24/2011 2:00	0.66	1.64	734.9
12/24/2011 3:00	0.66	1.64	734.9
12/24/2011 4:00	0.66	1.64	734.9
12/24/2011 5:00	0.66	1.64	734.9
12/24/2011 6:00	0.66	1.64	734.9
12/24/2011 7:00	0.66	1.64	734.9
12/24/2011 8:00	0.66	1.64	734.9
12/24/2011 9:00	0.66	1.64	734.9

12/24/2011 10:00	0.66	1.64	734.9
12/24/2011 11:00	0.66	1.64	734.9
12/24/2011 12:00	0.66	1.64	734.9
12/24/2011 13:00	0.65	1.60	718.1
12/24/2011 14:00	0.66	1.64	734.9
12/24/2011 15:00	0.65	1.60	718.1
12/24/2011 16:00	0.65	1.60	718.1
12/24/2011 17:00	0.66	1.64	734.9
12/24/2011 18:00	0.65	1.60	718.1
12/24/2011 19:00	0.66	1.64	734.9
12/24/2011 20:00	0.65	1.60	718.1
12/24/2011 21:00	0.66	1.64	734.9
12/24/2011 22:00	0.66	1.64	734.9
12/24/2011 23:00	0.66	1.64	734.9
12/25/2011 0:00	0.66	1.64	734.9
12/25/2011 1:00	0.66	1.64	734.9
12/25/2011 2:00	0.66	1.64	734.9
12/25/2011 3:00	0.66	1.64	734.9
12/25/2011 4:00	0.66	1.64	734.9
12/25/2011 5:00	0.66	1.64	734.9
12/25/2011 6:00	0.66	1.64	734.9
12/25/2011 7:00	0.65	1.60	718.1
12/25/2011 8:00	0.65	1.60	718.1
12/25/2011 9:00	0.66	1.64	734.9
12/25/2011 10:00	0.65	1.60	718.1
12/25/2011 11:00	0.65	1.60	718.1
12/25/2011 12:00	0.66	1.64	734.9
12/25/2011 13:00	0.66	1.64	734.9
12/25/2011 14:00	0.66	1.64	734.9
12/25/2011 15:00	0.66	1.64	734.9
12/25/2011 16:00	0.65	1.60	718.1
12/25/2011 17:00	0.65	1.60	718.1
12/25/2011 18:00	0.66	1.64	734.9
12/25/2011 19:00	0.66	1.64	734.9
12/25/2011 20:00	0.66	1.64	734.9
12/25/2011 21:00	0.65	1.60	718.1
12/25/2011 22:00	0.66	1.64	734.9
12/25/2011 23:00	0.65	1.60	718.1
12/26/2011 0:00	0.66	1.64	734.9
12/26/2011 1:00	0.66	1.64	734.9
12/26/2011 2:00	0.66	1.64	734.9
12/26/2011 3:00	0.66	1.64	734.9
12/26/2011 4:00	0.66	1.64	734.9
12/26/2011 5:00	0.66	1.64	734.9
12/26/2011 6:00	0.66	1.64	734.9
12/26/2011 7:00	0.66	1.64	734.9
12/26/2011 8:00	0.65	1.60	718.1

12/26/2011 9:00	0.65	1.60	718.1
12/26/2011 10:00	0.65	1.60	718.1
12/26/2011 11:00	0.65	1.60	718.1
12/26/2011 12:00	0.66	1.64	734.9
12/26/2011 13:00	0.65	1.60	718.1
12/26/2011 14:00	0.65	1.60	718.1
12/26/2011 15:00	0.65	1.60	718.1
12/26/2011 16:00	0.7	1.79	803.2
12/26/2011 17:00	0.7	1.79	803.2
12/26/2011 18:00	0.7	1.79	803.2
12/26/2011 19:00	0.7	1.79	803.2
12/26/2011 20:00	0.7	1.79	803.2
12/26/2011 21:00	0.7	1.79	803.2
12/26/2011 22:00	0.69	1.75	785.9
12/26/2011 23:00	0.7	1.79	803.2
12/27/2011 0:00	0.7	1.79	803.2
12/27/2011 1:00	0.7	1.79	803.2
12/27/2011 2:00	0.7	1.79	803.2
12/27/2011 3:00	0.7	1.79	803.2
12/27/2011 4:00	0.7	1.79	803.2
12/27/2011 5:00	0.7	1.79	803.2
12/27/2011 6:00	0.7	1.79	803.2
12/27/2011 7:00	0.7	1.79	803.2
12/27/2011 8:00	0.7	1.79	803.2
12/27/2011 9:00	0.7	1.79	803.2
12/27/2011 10:00	0.7	1.79	803.2
12/27/2011 11:00	0.7	1.79	803.2
12/27/2011 12:00	0.7	1.79	803.2
12/27/2011 13:00	0.7	1.79	803.2
12/27/2011 14:00	0.7	1.79	803.2
12/27/2011 15:00	0.7	1.79	803.2
12/27/2011 16:00	0.7	1.79	803.2
12/27/2011 17:00	0.7	1.79	803.2
12/27/2011 18:00	0.7	1.79	803.2
12/27/2011 19:00	0.7	1.79	803.2
12/27/2011 20:00	0.7	1.79	803.2
12/27/2011 21:00	0.7	1.79	803.2
12/27/2011 22:00	0.7	1.79	803.2
12/27/2011 23:00	0.7	1.79	803.2
12/28/2011 0:00	0.7	1.79	803.2
12/28/2011 1:00	0.7	1.79	803.2
12/28/2011 2:00	0.7	1.79	803.2
12/28/2011 3:00	0.7	1.79	803.2
12/28/2011 4:00	0.7	1.79	803.2
12/28/2011 5:00	0.7	1.79	803.2
12/28/2011 6:00	0.7	1.79	803.2
12/28/2011 7:00	0.7	1.79	803.2

12/28/2011 8:00	0.7	1.79	803.2
12/28/2011 9:00	0.7	1.79	803.2
12/28/2011 10:00	0.7	1.79	803.2
12/28/2011 11:00	0.7	1.79	803.2
12/28/2011 12:00	0.7	1.79	803.2
12/28/2011 13:00	0.7	1.79	803.2
12/28/2011 14:00	0.7	1.79	803.2
12/28/2011 15:00	0.7	1.79	803.2
12/28/2011 16:00	0.7	1.79	803.2
12/28/2011 17:00	0.7	1.79	803.2
12/28/2011 18:00	0.7	1.79	803.2
12/28/2011 19:00	0.7	1.79	803.2
12/28/2011 20:00	0.7	1.79	803.2
12/28/2011 21:00	0.7	1.79	803.2
12/28/2011 22:00	0.7	1.79	803.2
12/28/2011 23:00	0.7	1.79	803.2
12/29/2011 0:00	0.7	1.79	803.2
12/29/2011 1:00	0.7	1.79	803.2
12/29/2011 2:00	0.7	1.79	803.2
12/29/2011 3:00	0.7	1.79	803.2
12/29/2011 4:00	0.7	1.79	803.2
12/29/2011 5:00	0.7	1.79	803.2
12/29/2011 6:00	0.7	1.79	803.2
12/29/2011 7:00	0.7	1.79	803.2
12/29/2011 8:00	0.7	1.79	803.2
12/29/2011 9:00	0.7	1.79	803.2
12/29/2011 10:00	0.7	1.79	803.2
12/29/2011 11:00	0.7	1.79	803.2
12/29/2011 12:00	0.7	1.79	803.2
12/29/2011 13:00	0.7	1.79	803.2
12/29/2011 14:00	0.7	1.79	803.2
12/29/2011 15:00	0.7	1.79	803.2
12/29/2011 16:00	0.7	1.79	803.2
12/29/2011 17:00	0.7	1.79	803.2
12/29/2011 18:00	0.7	1.79	803.2
12/29/2011 19:00	0.7	1.79	803.2
12/29/2011 20:00	0.7	1.79	803.2
12/29/2011 21:00	0.7	1.79	803.2
12/29/2011 22:00	0.7	1.79	803.2
12/29/2011 23:00	0.7	1.79	803.2
12/30/2011 0:00	0.7	1.79	803.2
12/30/2011 1:00	0.7	1.79	803.2
12/30/2011 2:00	0.7	1.79	803.2
12/30/2011 3:00	0.7	1.79	803.2
12/30/2011 4:00	0.7	1.79	803.2
12/30/2011 5:00	0.7	1.79	803.2
12/30/2011 6:00	0.7	1.79	803.2

12/30/2011 7:00	0.7	1.79	803.2
12/30/2011 8:00	0.7	1.79	803.2
12/30/2011 9:00	0.7	1.79	803.2
12/30/2011 10:00	0.7	1.79	803.2
12/30/2011 11:00	0.7	1.79	803.2
12/30/2011 12:00	0.7	1.79	803.2
12/30/2011 13:00	0.7	1.79	803.2
12/30/2011 14:00	0.7	1.79	803.2
12/30/2011 15:00	0.7	1.79	803.2
12/30/2011 16:00	0.7	1.79	803.2
12/30/2011 17:00	0.7	1.79	803.2
12/30/2011 18:00	0.7	1.79	803.2
12/30/2011 19:00	0.7	1.79	803.2
12/30/2011 20:00	0.7	1.79	803.2
12/30/2011 21:00	0.7	1.79	803.2
12/30/2011 22:00	0.7	1.79	803.2
12/30/2011 23:00	0.7	1.79	803.2
12/31/2011 0:00	0.7	1.79	803.2
12/31/2011 1:00	0.7	1.79	803.2
12/31/2011 2:00	0.7	1.79	803.2
12/31/2011 3:00	0.7	1.79	803.2
12/31/2011 4:00	0.7	1.79	803.2
12/31/2011 5:00	0.7	1.79	803.2
12/31/2011 6:00	0.7	1.79	803.2
12/31/2011 7:00	0.7	1.79	803.2
12/31/2011 8:00	0.7	1.79	803.2
12/31/2011 9:00	0.7	1.79	803.2
12/31/2011 10:00	0.7	1.79	803.2
12/31/2011 11:00	0.7	1.79	803.2
12/31/2011 12:00	0.7	1.79	803.2
12/31/2011 13:00	0.7	1.79	803.2
12/31/2011 14:00	0.7	1.79	803.2
12/31/2011 15:00	0.7	1.79	803.2
12/31/2011 16:00	0.7	1.79	803.2
12/31/2011 17:00	0.7	1.79	803.2
12/31/2011 18:00	0.7	1.79	803.2
12/31/2011 19:00	0.7	1.79	803.2
12/31/2011 20:00	0.7	1.79	803.2
12/31/2011 21:00	0.7	1.79	803.2
12/31/2011 22:00	0.7	1.79	803.2
12/31/2011 23:00	0.7	1.79	803.2
1/1/2012 0:00	0.7	1.79	803.2
1/1/2012 1:00	0.7	1.79	803.2
1/1/2012 2:00	0.7	1.79	803.2
1/1/2012 3:00	0.7	1.79	803.2
1/1/2012 4:00	0.7	1.79	803.2
1/1/2012 5:00	0.7	1.79	803.2

1/1/2012 6:00	0.7	1.79	803.2
1/1/2012 7:00	0.7	1.79	803.2
1/1/2012 8:00	0.7	1.79	803.2
1/1/2012 9:00	0.7	1.79	803.2
1/1/2012 10:00	0.7	1.79	803.2
1/1/2012 11:00	0.7	1.79	803.2
1/1/2012 12:00	0.7	1.79	803.2
1/1/2012 13:00	0.7	1.79	803.2
1/1/2012 14:00	0.7	1.79	803.2
1/1/2012 15:00	0.7	1.79	803.2
1/1/2012 16:00	0.7	1.79	803.2
1/1/2012 17:00	0.7	1.79	803.2
1/1/2012 18:00	0.7	1.79	803.2
1/1/2012 19:00	0.7	1.79	803.2
1/1/2012 20:00	0.7	1.79	803.2
1/1/2012 21:00	0.7	1.79	803.2
1/1/2012 22:00	0.7	1.79	803.2
1/1/2012 23:00	0.7	1.79	803.2
1/2/2012 0:00	0.7	1.79	803.2
1/2/2012 1:00	0.7	1.79	803.2
1/2/2012 2:00	0.7	1.79	803.2
1/2/2012 3:00	0.7	1.79	803.2
1/2/2012 4:00	0.7	1.79	803.2
1/2/2012 5:00	0.7	1.79	803.2
1/2/2012 6:00	0.7	1.79	803.2
1/2/2012 7:00	0.7	1.79	803.2
1/2/2012 8:00	0.7	1.79	803.2
1/2/2012 9:00	0.7	1.79	803.2
1/2/2012 10:00	0.7	1.79	803.2
1/2/2012 11:00	0.7	1.79	803.2
1/2/2012 12:00	0.7	1.79	803.2
1/2/2012 13:00	0.7	1.79	803.2
1/2/2012 14:00	0.7	1.79	803.2
1/2/2012 15:00	0.7	1.79	803.2
1/2/2012 16:00	0.7	1.79	803.2
1/2/2012 17:00	0.7	1.79	803.2
1/2/2012 18:00	0.7	1.79	803.2
1/2/2012 19:00	0.7	1.79	803.2
1/2/2012 20:00	0.7	1.79	803.2
1/2/2012 21:00	0.7	1.79	803.2
1/2/2012 22:00	0.7	1.79	803.2
1/2/2012 23:00	0.7	1.79	803.2
1/3/2012 0:00	0.7	1.79	803.2
1/3/2012 1:00	0.7	1.79	803.2
1/3/2012 2:00	0.7	1.79	803.2
1/3/2012 3:00	0.7	1.79	803.2
1/3/2012 4:00	0.7	1.79	803.2

1/3/2012 5:00	0.7	1.79	803.2
1/3/2012 6:00	0.7	1.79	803.2
1/3/2012 7:00	0.7	1.79	803.2
1/3/2012 8:00	0.7	1.79	803.2
1/3/2012 9:00	0.7	1.79	803.2
1/3/2012 10:00	0.7	1.79	803.2
1/3/2012 11:00	0.7	1.79	803.2
1/3/2012 12:00	0.7	1.79	803.2
1/3/2012 13:00	0.7	1.79	803.2
1/3/2012 14:00	0.7	1.79	803.2
1/3/2012 15:00	0.7	1.79	803.2
1/3/2012 16:00	0.7	1.79	803.2
1/3/2012 17:00	0.7	1.79	803.2
1/3/2012 18:00	0.7	1.79	803.2
1/3/2012 19:00	0.7	1.79	803.2
1/3/2012 20:00	0.7	1.79	803.2
1/3/2012 21:00	0.7	1.79	803.2
1/3/2012 22:00	0.7	1.79	803.2
1/3/2012 23:00	0.7	1.79	803.2
1/4/2012 0:00	0.7	1.79	803.2
1/4/2012 1:00	0.7	1.79	803.2
1/4/2012 2:00	0.7	1.79	803.2
1/4/2012 3:00	0.7	1.79	803.2
1/4/2012 4:00	0.7	1.79	803.2
1/4/2012 5:00	0.7	1.79	803.2
1/4/2012 6:00	0.7	1.79	803.2
1/4/2012 7:00	0.7	1.79	803.2
1/4/2012 8:00	0.7	1.79	803.2
1/4/2012 9:00	0.7	1.79	803.2
1/4/2012 10:00	0.7	1.79	803.2
1/4/2012 11:00	0.7	1.79	803.2
1/4/2012 12:00	0.7	1.79	803.2
1/4/2012 13:00	0.7	1.79	803.2
1/4/2012 14:00	0.7	1.79	803.2
1/4/2012 15:00	0.7	1.79	803.2
1/4/2012 16:00	0.7	1.79	803.2
1/4/2012 17:00	0.7	1.79	803.2
1/4/2012 18:00	0.7	1.79	803.2
1/4/2012 19:00	0.7	1.79	803.2
1/4/2012 20:00	0.7	1.79	803.2
1/4/2012 21:00	0.7	1.79	803.2
1/4/2012 22:00	0.7	1.79	803.2
1/4/2012 23:00	0.7	1.79	803.2
1/5/2012 0:00	0.7	1.79	803.2
1/5/2012 1:00	0.7	1.79	803.2
1/5/2012 2:00	0.7	1.79	803.2
1/5/2012 3:00	0.7	1.79	803.2

1/5/2012 4:00	0.7	1.79	803.2
1/5/2012 5:00	0.7	1.79	803.2
1/5/2012 6:00	0.7	1.79	803.2
1/5/2012 7:00	0.7	1.79	803.2
1/5/2012 8:00	0.7	1.79	803.2
1/5/2012 9:00	0.7	1.79	803.2
1/5/2012 10:00	0.7	1.79	803.2
1/5/2012 11:00	0.7	1.79	803.2
1/5/2012 12:00	0.7	1.79	803.2
1/5/2012 13:00	0.7	1.79	803.2
1/5/2012 14:00	0.7	1.79	803.2
1/5/2012 15:00	0.7	1.79	803.2
1/5/2012 16:00	0.7	1.79	803.2
1/5/2012 17:00	0.7	1.79	803.2
1/5/2012 18:00	0.7	1.79	803.2
1/5/2012 19:00	0.7	1.79	803.2
1/5/2012 20:00	0.7	1.79	803.2
1/5/2012 21:00	0.7	1.79	803.2
1/5/2012 22:00	0.7	1.79	803.2
1/5/2012 23:00	0.7	1.79	803.2
1/6/2012 0:00	0.7	1.79	803.2
1/6/2012 1:00	0.7	1.79	803.2
1/6/2012 2:00	0.7	1.79	803.2
1/6/2012 3:00	0.7	1.79	803.2
1/6/2012 4:00	0.7	1.79	803.2
1/6/2012 5:00	0.7	1.79	803.2
1/6/2012 6:00	0.7	1.79	803.2
1/6/2012 7:00	0.7	1.79	803.2
1/6/2012 8:00	0.7	1.79	803.2
1/6/2012 9:00	0.7	1.79	803.2
1/6/2012 10:00	0.7	1.79	803.2
1/6/2012 11:00	0.7	1.79	803.2
1/6/2012 12:00	0.7	1.79	803.2
1/6/2012 13:00	0.7	1.79	803.2
1/6/2012 14:00	0.7	1.79	803.2
1/6/2012 15:00	0.7	1.79	803.2
1/6/2012 16:00	0.7	1.79	803.2
1/6/2012 17:00	0.7	1.79	803.2
1/6/2012 18:00	0.7	1.79	803.2
1/6/2012 19:00	0.7	1.79	803.2
1/6/2012 20:00	0.7	1.79	803.2
1/6/2012 21:00	0.7	1.79	803.2
1/6/2012 22:00	0.7	1.79	803.2
1/6/2012 23:00	0.7	1.79	803.2
1/7/2012 0:00	0.7	1.79	803.2
1/7/2012 1:00	0.7	1.79	803.2
1/7/2012 2:00	0.7	1.79	803.2

1/7/2012 3:00	0.7	1.79	803.2
1/7/2012 4:00	0.7	1.79	803.2
1/7/2012 5:00	0.7	1.79	803.2
1/7/2012 6:00	0.7	1.79	803.2
1/7/2012 7:00	0.7	1.79	803.2
1/7/2012 8:00	0.7	1.79	803.2
1/7/2012 9:00	0.7	1.79	803.2
1/7/2012 10:00	0.7	1.79	803.2
1/7/2012 11:00	0.7	1.79	803.2
1/7/2012 12:00	0.7	1.79	803.2
1/7/2012 13:00	0.7	1.79	803.2
1/7/2012 14:00	0.7	1.79	803.2
1/7/2012 15:00	0.7	1.79	803.2
1/7/2012 16:00	0.7	1.79	803.2
1/7/2012 17:00	0.7	1.79	803.2
1/7/2012 18:00	0.7	1.79	803.2
1/7/2012 19:00	0.7	1.79	803.2
1/7/2012 20:00	0.7	1.79	803.2
1/7/2012 21:00	0.7	1.79	803.2
1/7/2012 22:00	0.7	1.79	803.2
1/7/2012 23:00	0.7	1.79	803.2
1/8/2012 0:00	0.7	1.79	803.2
1/8/2012 1:00	0.7	1.79	803.2
1/8/2012 2:00	0.69	1.75	785.9
1/8/2012 3:00	0.7	1.79	803.2
1/8/2012 4:00	0.7	1.79	803.2
1/8/2012 5:00	0.7	1.79	803.2
1/8/2012 6:00	0.7	1.79	803.2
1/8/2012 7:00	0.7	1.79	803.2
1/8/2012 8:00	0.7	1.79	803.2
1/8/2012 9:00	0.7	1.79	803.2
1/8/2012 10:00	0.7	1.79	803.2
1/8/2012 11:00	0.7	1.79	803.2
1/8/2012 12:00	0.7	1.79	803.2
1/8/2012 13:00	0.7	1.79	803.2
1/8/2012 14:00	0.7	1.79	803.2
1/8/2012 15:00	0.7	1.79	803.2
1/8/2012 16:00	0.7	1.79	803.2
1/8/2012 17:00	0.7	1.79	803.2
1/8/2012 18:00	0.7	1.79	803.2
1/8/2012 19:00	0.7	1.79	803.2
1/8/2012 20:00	0.7	1.79	803.2
1/8/2012 21:00	0.7	1.79	803.2
1/8/2012 22:00	0.7	1.79	803.2
1/8/2012 23:00	0.7	1.79	803.2
1/9/2012 0:00	0.7	1.79	803.2
1/9/2012 1:00	0.7	1.79	803.2

1/9/2012 2:00	0.7	1.79	803.2
1/9/2012 3:00	0.7	1.79	803.2
1/9/2012 4:00	0.7	1.79	803.2
1/9/2012 5:00	0.7	1.79	803.2
1/9/2012 6:00	0.7	1.79	803.2
1/9/2012 7:00	0.7	1.79	803.2
1/9/2012 8:00	0.7	1.79	803.2
1/9/2012 9:00	0.7	1.79	803.2
1/9/2012 10:00	0.7	1.79	803.2
1/9/2012 11:00	0.7	1.79	803.2
1/9/2012 12:00	0.7	1.79	803.2
1/9/2012 13:00	0.7	1.79	803.2
1/9/2012 14:00	0.7	1.79	803.2
1/9/2012 15:00	0.7	1.79	803.2
1/9/2012 16:00	0.7	1.79	803.2
1/9/2012 17:00	0.7	1.79	803.2
1/9/2012 18:00	0.7	1.79	803.2
1/9/2012 19:00	0.7	1.79	803.2
1/9/2012 20:00	0.7	1.79	803.2
1/9/2012 21:00	0.7	1.79	803.2
1/9/2012 22:00	0.7	1.79	803.2
1/9/2012 23:00	0.7	1.79	803.2
1/10/2012 0:00	0.7	1.79	803.2
1/10/2012 1:00	0.7	1.79	803.2
1/10/2012 2:00	0.7	1.79	803.2
1/10/2012 3:00	0.7	1.79	803.2
1/10/2012 4:00	0.7	1.79	803.2
1/10/2012 5:00	0.7	1.79	803.2
1/10/2012 6:00	0.7	1.79	803.2
1/10/2012 7:00	0.7	1.79	803.2
1/10/2012 8:00	0.7	1.79	803.2
1/10/2012 9:00	0.7	1.79	803.2
1/10/2012 10:00	0.7	1.79	803.2
1/10/2012 11:00	0.7	1.79	803.2
1/10/2012 12:00	0.7	1.79	803.2
1/10/2012 13:00	0.7	1.79	803.2
1/10/2012 14:00	0.7	1.79	803.2
1/10/2012 15:00	0.7	1.79	803.2
1/10/2012 16:00	0.7	1.79	803.2
1/10/2012 17:00	0.7	1.79	803.2
1/10/2012 18:00	0.7	1.79	803.2
1/10/2012 19:00	0.7	1.79	803.2
1/10/2012 20:00	0.7	1.79	803.2
1/10/2012 21:00	0.7	1.79	803.2
1/10/2012 22:00	0.7	1.79	803.2
1/10/2012 23:00	0.7	1.79	803.2
1/11/2012 0:00	0.7	1.79	803.2

1/11/2012 1:00	0.7	1.79	803.2
1/11/2012 2:00	0.7	1.79	803.2
1/11/2012 3:00	0.7	1.79	803.2
1/11/2012 4:00	0.7	1.79	803.2
1/11/2012 5:00	0.7	1.79	803.2
1/11/2012 6:00	0.7	1.79	803.2
1/11/2012 7:00	0.7	1.79	803.2
1/11/2012 8:00	0.7	1.79	803.2
1/11/2012 9:00	0.7	1.79	803.2
1/11/2012 10:00	0.7	1.79	803.2
1/11/2012 11:00	0.7	1.79	803.2
1/11/2012 12:00	0.7	1.79	803.2
1/11/2012 13:00	0.7	1.79	803.2
1/11/2012 14:00	0.7	1.79	803.2
1/11/2012 15:00	0.7	1.79	803.2
1/11/2012 16:00	0.7	1.79	803.2
1/11/2012 17:00	0.7	1.79	803.2
1/11/2012 18:00	0.7	1.79	803.2
1/11/2012 19:00	0.7	1.79	803.2
1/11/2012 20:00	0.7	1.79	803.2
1/11/2012 21:00	0.7	1.79	803.2
1/11/2012 22:00	0.7	1.79	803.2
1/11/2012 23:00	0.7	1.79	803.2
1/12/2012 0:00	0.7	1.79	803.2
1/12/2012 1:00	0.7	1.79	803.2
1/12/2012 2:00	0.7	1.79	803.2
1/12/2012 3:00	0.7	1.79	803.2
1/12/2012 4:00	0.7	1.79	803.2
1/12/2012 5:00	0.7	1.79	803.2
1/12/2012 6:00	0.7	1.79	803.2
1/12/2012 7:00	0.7	1.79	803.2
1/12/2012 8:00	0.7	1.79	803.2
1/12/2012 9:00	0.7	1.79	803.2
1/12/2012 10:00	0.7	1.79	803.2
1/12/2012 11:00	0.7	1.79	803.2
1/12/2012 12:00	0.7	1.79	803.2
1/12/2012 13:00	0.7	1.79	803.2
1/12/2012 14:00	0.7	1.79	803.2
1/12/2012 15:00	0.7	1.79	803.2
1/12/2012 16:00	0.7	1.79	803.2
1/12/2012 17:00	0.7	1.79	803.2
1/12/2012 18:00	0.7	1.79	803.2
1/12/2012 19:00	0.7	1.79	803.2
1/12/2012 20:00	0.7	1.79	803.2
1/12/2012 21:00	0.7	1.79	803.2
1/12/2012 22:00	0.7	1.79	803.2
1/12/2012 23:00	0.7	1.79	803.2

1/13/2012 0:00	0.7	1.79	803.2
1/13/2012 1:00	0.7	1.79	803.2
1/13/2012 2:00	0.7	1.79	803.2
1/13/2012 3:00	0.7	1.79	803.2
1/13/2012 4:00	0.7	1.79	803.2
1/13/2012 5:00	0.7	1.79	803.2
1/13/2012 6:00	0.7	1.79	803.2
1/13/2012 7:00	0.7	1.79	803.2
1/13/2012 8:00	0.7	1.79	803.2
1/13/2012 9:00	0.7	1.79	803.2
1/13/2012 10:00	0.7	1.79	803.2
1/13/2012 11:00	0.7	1.79	803.2
1/13/2012 12:00	0.7	1.79	803.2
1/13/2012 13:00	0.7	1.79	803.2
1/13/2012 14:00	0.7	1.79	803.2
1/13/2012 15:00	0.7	1.79	803.2
1/13/2012 16:00	0.7	1.79	803.2
1/13/2012 17:00	0.7	1.79	803.2
1/13/2012 18:00	0.7	1.79	803.2
1/13/2012 19:00	0.7	1.79	803.2
1/13/2012 20:00	0.7	1.79	803.2
1/13/2012 21:00	0.7	1.79	803.2
1/13/2012 22:00	0.7	1.79	803.2
1/13/2012 23:00	0.7	1.79	803.2
1/14/2012 0:00	0.7	1.79	803.2
1/14/2012 1:00	0.7	1.79	803.2
1/14/2012 2:00	0.7	1.79	803.2
1/14/2012 3:00	0.7	1.79	803.2
1/14/2012 4:00	0.7	1.79	803.2
1/14/2012 5:00	0.7	1.79	803.2
1/14/2012 6:00	0.7	1.79	803.2
1/14/2012 7:00	0.7	1.79	803.2
1/14/2012 8:00	0.7	1.79	803.2
1/14/2012 9:00	0.7	1.79	803.2
1/14/2012 10:00	0.7	1.79	803.2
1/14/2012 11:00	0.7	1.79	803.2
1/14/2012 12:00	0.7	1.79	803.2
1/14/2012 13:00	0.7	1.79	803.2
1/14/2012 14:00	0.7	1.79	803.2
1/14/2012 15:00	0.7	1.79	803.2
1/14/2012 16:00	0.7	1.79	803.2
1/14/2012 17:00	0.7	1.79	803.2
1/14/2012 18:00	0.7	1.79	803.2
1/14/2012 19:00	0.7	1.79	803.2
1/14/2012 20:00	0.7	1.79	803.2
1/14/2012 21:00	0.7	1.79	803.2
1/14/2012 22:00	0.7	1.79	803.2

1/14/2012 23:00	0.7	1.79	803.2
1/15/2012 0:00	0.7	1.79	803.2
1/15/2012 1:00	0.7	1.79	803.2
1/15/2012 2:00	0.7	1.79	803.2
1/15/2012 3:00	0.7	1.79	803.2
1/15/2012 4:00	0.7	1.79	803.2
1/15/2012 5:00	0.7	1.79	803.2
1/15/2012 6:00	0.7	1.79	803.2
1/15/2012 7:00	0.7	1.79	803.2
1/15/2012 8:00	0.7	1.79	803.2
1/15/2012 9:00	0.7	1.79	803.2
1/15/2012 10:00	0.7	1.79	803.2
1/15/2012 11:00	0.7	1.79	803.2
1/15/2012 12:00	0.7	1.79	803.2
1/15/2012 13:00	0.7	1.79	803.2
1/15/2012 14:00	0.7	1.79	803.2
1/15/2012 15:00	0.7	1.79	803.2
1/15/2012 16:00	0.7	1.79	803.2
1/15/2012 17:00	0.7	1.79	803.2
1/15/2012 18:00	0.7	1.79	803.2
1/15/2012 19:00	0.7	1.79	803.2
1/15/2012 20:00	0.7	1.79	803.2
1/15/2012 21:00	0.7	1.79	803.2
1/15/2012 22:00	0.7	1.79	803.2
1/15/2012 23:00	0.7	1.79	803.2
1/16/2012 0:00	0.7	1.79	803.2
1/16/2012 1:00	0.7	1.79	803.2
1/16/2012 2:00	0.7	1.79	803.2
1/16/2012 3:00	0.7	1.79	803.2
1/16/2012 4:00	0.7	1.79	803.2
1/16/2012 5:00	0.7	1.79	803.2
1/16/2012 6:00	0.7	1.79	803.2
1/16/2012 7:00	0.7	1.79	803.2
1/16/2012 8:00	0.7	1.79	803.2
1/16/2012 9:00	0.7	1.79	803.2
1/16/2012 10:00	0.7	1.79	803.2
1/16/2012 11:00	0.7	1.79	803.2
1/16/2012 12:00	0.7	1.79	803.2
1/16/2012 13:00	0.7	1.79	803.2
1/16/2012 14:00	0.7	1.79	803.2
1/16/2012 15:00	0.7	1.79	803.2
1/16/2012 16:00	0.7	1.79	803.2
1/16/2012 17:00	0.7	1.79	803.2
1/16/2012 18:00	0.7	1.79	803.2
1/16/2012 19:00	0.7	1.79	803.2
1/16/2012 20:00	0.7	1.79	803.2
1/16/2012 21:00	0.7	1.79	803.2

1/16/2012 22:00	0.7	1.79	803.2
1/16/2012 23:00	0.7	1.79	803.2
1/17/2012 0:00	0.7	1.79	803.2
1/17/2012 1:00	0.7	1.79	803.2
1/17/2012 2:00	0.7	1.79	803.2
1/17/2012 3:00	0.7	1.79	803.2
1/17/2012 4:00	0.7	1.79	803.2
1/17/2012 5:00	0.7	1.79	803.2
1/17/2012 6:00	0.7	1.79	803.2
1/17/2012 7:00	0.7	1.79	803.2
1/17/2012 8:00	0.7	1.79	803.2
1/17/2012 9:00	0.7	1.79	803.2
1/17/2012 10:00	0.7	1.79	803.2
1/17/2012 11:00	0.7	1.79	803.2
1/17/2012 12:00	0.7	1.79	803.2
1/17/2012 13:00	0.64	1.56	701.5
1/17/2012 14:00	0.65	1.60	718.1
1/17/2012 15:00	0.65	1.60	718.1
1/17/2012 16:00	0.65	1.60	718.1
1/17/2012 17:00	0.65	1.60	718.1
1/17/2012 18:00	0.65	1.60	718.1
1/17/2012 19:00	0.65	1.60	718.1
1/17/2012 20:00	0.65	1.60	718.1
1/17/2012 21:00	0.65	1.60	718.1
1/17/2012 22:00	0.65	1.60	718.1
1/17/2012 23:00	0.65	1.60	718.1
1/18/2012 0:00	0.65	1.60	718.1
1/18/2012 1:00	0.65	1.60	718.1
1/18/2012 2:00	0.65	1.60	718.1
1/18/2012 3:00	0.65	1.60	718.1
1/18/2012 4:00	0.65	1.60	718.1
1/18/2012 5:00	0.65	1.60	718.1
1/18/2012 6:00	0.65	1.60	718.1
1/18/2012 7:00	0.65	1.60	718.1
1/18/2012 8:00	0.65	1.60	718.1
1/18/2012 9:00	0.65	1.60	718.1
1/18/2012 10:00	0.65	1.60	718.1
1/18/2012 11:00	0.65	1.60	718.1
1/18/2012 12:00	0.65	1.60	718.1
1/18/2012 13:00	0.65	1.60	718.1
1/18/2012 14:00	0.65	1.60	718.1
1/18/2012 15:00	0.65	1.60	718.1
1/18/2012 16:00	0.65	1.60	718.1
1/18/2012 17:00	0.65	1.60	718.1
1/18/2012 18:00	0.64	1.56	701.5
1/18/2012 19:00	0.65	1.60	718.1
1/18/2012 20:00	0.65	1.60	718.1

1/18/2012 21:00	0.65	1.60	718.1
1/18/2012 22:00	0.65	1.60	718.1
1/18/2012 23:00	0.65	1.60	718.1
1/19/2012 0:00	0.65	1.60	718.1
1/19/2012 1:00	0.65	1.60	718.1
1/19/2012 2:00	0.65	1.60	718.1
1/19/2012 3:00	0.65	1.60	718.1
1/19/2012 4:00	0.65	1.60	718.1
1/19/2012 5:00	0.65	1.60	718.1
1/19/2012 6:00	0.65	1.60	718.1
1/19/2012 7:00	0.65	1.60	718.1
1/19/2012 8:00	0.65	1.60	718.1
1/19/2012 9:00	0.65	1.60	718.1
1/19/2012 10:00	0.65	1.60	718.1
1/19/2012 11:00	0.65	1.60	718.1
1/19/2012 12:00	0.65	1.60	718.1
1/19/2012 13:00	0.65	1.60	718.1
1/19/2012 14:00	0.65	1.60	718.1
1/19/2012 15:00	0.65	1.60	718.1
1/19/2012 16:00	0.65	1.60	718.1
1/19/2012 17:00	0.65	1.60	718.1
1/19/2012 18:00	0.65	1.60	718.1
1/19/2012 19:00	0.65	1.60	718.1
1/19/2012 20:00	0.65	1.60	718.1
1/19/2012 21:00	0.65	1.60	718.1
1/19/2012 22:00	0.65	1.60	718.1
1/19/2012 23:00	0.65	1.60	718.1
1/20/2012 0:00	0.65	1.60	718.1
1/20/2012 1:00	0.65	1.60	718.1
1/20/2012 2:00	0.65	1.60	718.1
1/20/2012 3:00	0.65	1.60	718.1
1/20/2012 4:00	0.65	1.60	718.1
1/20/2012 5:00	0.65	1.60	718.1
1/20/2012 6:00	0.65	1.60	718.1
1/20/2012 7:00	0.65	1.60	718.1
1/20/2012 8:00	0.65	1.60	718.1
1/20/2012 9:00	0.65	1.60	718.1
1/20/2012 10:00	0.65	1.60	718.1
1/20/2012 11:00	0.65	1.60	718.1
1/20/2012 12:00	0.65	1.60	718.1
1/20/2012 13:00	0.65	1.60	718.1
1/20/2012 14:00	0.65	1.60	718.1
1/20/2012 15:00	0.65	1.60	718.1
1/20/2012 16:00	0.65	1.60	718.1
1/20/2012 17:00	0.65	1.60	718.1
1/20/2012 18:00	0.65	1.60	718.1
1/20/2012 19:00	0.65	1.60	718.1

1/20/2012 20:00	0.65	1.60	718.1
1/20/2012 21:00	0.65	1.60	718.1
1/20/2012 22:00	0.65	1.60	718.1
1/20/2012 23:00	0.65	1.60	718.1
1/21/2012 0:00	0.65	1.60	718.1
1/21/2012 1:00	0.65	1.60	718.1
1/21/2012 2:00	0.65	1.60	718.1
1/21/2012 3:00	0.65	1.60	718.1
1/21/2012 4:00	0.65	1.60	718.1
1/21/2012 5:00	0.65	1.60	718.1
1/21/2012 6:00	0.65	1.60	718.1
1/21/2012 7:00	0.65	1.60	718.1
1/21/2012 8:00	0.65	1.60	718.1
1/21/2012 9:00	0.65	1.60	718.1
1/21/2012 10:00	0.65	1.60	718.1
1/21/2012 11:00	0.65	1.60	718.1
1/21/2012 12:00	0.65	1.60	718.1
1/21/2012 13:00	0.65	1.60	718.1
1/21/2012 14:00	0.65	1.60	718.1
1/21/2012 15:00	0.65	1.60	718.1
1/21/2012 16:00	0.65	1.60	718.1
1/21/2012 17:00	0.65	1.60	718.1
1/21/2012 18:00	0.65	1.60	718.1
1/21/2012 19:00	0.65	1.60	718.1
1/21/2012 20:00	0.65	1.60	718.1
1/21/2012 21:00	0.65	1.60	718.1
1/21/2012 22:00	0.65	1.60	718.1
1/21/2012 23:00	0.65	1.60	718.1
1/22/2012 0:00	0.65	1.60	718.1
1/22/2012 1:00	0.65	1.60	718.1
1/22/2012 2:00	0.65	1.60	718.1
1/22/2012 3:00	0.65	1.60	718.1
1/22/2012 4:00	0.65	1.60	718.1
1/22/2012 5:00	0.65	1.60	718.1
1/22/2012 6:00	0.65	1.60	718.1
1/22/2012 7:00	0.65	1.60	718.1
1/22/2012 8:00	0.65	1.60	718.1
1/22/2012 9:00	0.65	1.60	718.1
1/22/2012 10:00	0.65	1.60	718.1
1/22/2012 11:00	0.65	1.60	718.1
1/22/2012 12:00	0.65	1.60	718.1
1/22/2012 13:00	0.65	1.60	718.1
1/22/2012 14:00	0.65	1.60	718.1
1/22/2012 15:00	0.65	1.60	718.1
1/22/2012 16:00	0.65	1.60	718.1
1/22/2012 17:00	0.65	1.60	718.1
1/22/2012 18:00	0.65	1.60	718.1

1/22/2012 19:00	0.65	1.60	718.1
1/22/2012 20:00	0.65	1.60	718.1
1/22/2012 21:00	0.65	1.60	718.1
1/22/2012 22:00	0.65	1.60	718.1
1/22/2012 23:00	0.65	1.60	718.1
1/23/2012 0:00	0.65	1.60	718.1
1/23/2012 1:00	0.65	1.60	718.1
1/23/2012 2:00	0.65	1.60	718.1
1/23/2012 3:00	0.65	1.60	718.1
1/23/2012 4:00	0.65	1.60	718.1
1/23/2012 5:00	0.65	1.60	718.1
1/23/2012 6:00	0.65	1.60	718.1
1/23/2012 7:00	0.65	1.60	718.1
1/23/2012 8:00	0.65	1.60	718.1
1/23/2012 9:00	0.65	1.60	718.1
1/23/2012 10:00	0.65	1.60	718.1
1/23/2012 11:00	0.65	1.60	718.1
1/23/2012 12:00	0.65	1.60	718.1
1/23/2012 13:00	0.65	1.60	718.1
1/23/2012 14:00	0.65	1.60	718.1
1/23/2012 15:00	0.65	1.60	718.1
1/23/2012 16:00	0.65	1.60	718.1
1/23/2012 17:00	0.65	1.60	718.1
1/23/2012 18:00	0.65	1.60	718.1
1/23/2012 19:00	0.65	1.60	718.1
1/23/2012 20:00	0.65	1.60	718.1
1/23/2012 21:00	0.65	1.60	718.1
1/23/2012 22:00	0.65	1.60	718.1
1/23/2012 23:00	0.65	1.60	718.1
1/24/2012 0:00	0.65	1.60	718.1
1/24/2012 1:00	0.65	1.60	718.1
1/24/2012 2:00	0.65	1.60	718.1
1/24/2012 3:00	0.65	1.60	718.1
1/24/2012 4:00	0.65	1.60	718.1
1/24/2012 5:00	0.65	1.60	718.1
1/24/2012 6:00	0.65	1.60	718.1
1/24/2012 7:00	0.65	1.60	718.1
1/24/2012 8:00	0.65	1.60	718.1
1/24/2012 9:00	0.65	1.60	718.1
1/24/2012 10:00	0.65	1.60	718.1
1/24/2012 11:00	0.65	1.60	718.1
1/24/2012 12:00	0.65	1.60	718.1
1/24/2012 13:00	0.65	1.60	718.1
1/24/2012 14:00	0.65	1.60	718.1
1/24/2012 15:00	0.65	1.60	718.1
1/24/2012 16:00	0.65	1.60	718.1
1/24/2012 17:00	0.65	1.60	718.1

1/24/2012 18:00	0.65	1.60	718.1
1/24/2012 19:00	0.65	1.60	718.1
1/24/2012 20:00	0.65	1.60	718.1
1/24/2012 21:00	0.65	1.60	718.1
1/24/2012 22:00	0.65	1.60	718.1
1/24/2012 23:00	0.65	1.60	718.1
1/25/2012 0:00	0.65	1.60	718.1
1/25/2012 1:00	0.65	1.60	718.1
1/25/2012 2:00	0.65	1.60	718.1
1/25/2012 3:00	0.65	1.60	718.1
1/25/2012 4:00	0.65	1.60	718.1
1/25/2012 5:00	0.65	1.60	718.1
1/25/2012 6:00	0.65	1.60	718.1
1/25/2012 7:00	0.65	1.60	718.1
1/25/2012 8:00	0.65	1.60	718.1
1/25/2012 9:00	0.65	1.60	718.1
1/25/2012 10:00	0.65	1.60	718.1
1/25/2012 11:00	0.65	1.60	718.1
1/25/2012 12:00	0.65	1.60	718.1
1/25/2012 13:00	0.65	1.60	718.1
1/25/2012 14:00	0.65	1.60	718.1
1/25/2012 15:00	0.65	1.60	718.1
1/25/2012 16:00	0.65	1.60	718.1
1/25/2012 17:00	0.65	1.60	718.1
1/25/2012 18:00	0.65	1.60	718.1
1/25/2012 19:00	0.65	1.60	718.1
1/25/2012 20:00	0.65	1.60	718.1
1/25/2012 21:00	0.65	1.60	718.1
1/25/2012 22:00	0.65	1.60	718.1
1/25/2012 23:00	0.65	1.60	718.1
1/26/2012 0:00	0.65	1.60	718.1
1/26/2012 1:00	0.65	1.60	718.1
1/26/2012 2:00	0.65	1.60	718.1
1/26/2012 3:00	0.65	1.60	718.1
1/26/2012 4:00	0.65	1.60	718.1
1/26/2012 5:00	0.65	1.60	718.1
1/26/2012 6:00	0.65	1.60	718.1
1/26/2012 7:00	0.65	1.60	718.1
1/26/2012 8:00	0.65	1.60	718.1
1/26/2012 9:00	0.65	1.60	718.1
1/26/2012 10:00	0.65	1.60	718.1
1/26/2012 11:00	0.65	1.60	718.1
1/26/2012 12:00	0.65	1.60	718.1
1/26/2012 13:00	0.65	1.60	718.1
1/26/2012 14:00	0.65	1.60	718.1
1/26/2012 15:00	0.65	1.60	718.1
1/26/2012 16:00	0.65	1.60	718.1

1/26/2012 17:00	0.65	1.60	718.1
1/26/2012 18:00	0.65	1.60	718.1
1/26/2012 19:00	0.65	1.60	718.1
1/26/2012 20:00	0.65	1.60	718.1
1/26/2012 21:00	0.65	1.60	718.1
1/26/2012 22:00	0.65	1.60	718.1
1/26/2012 23:00	0.65	1.60	718.1
1/27/2012 0:00	0.65	1.60	718.1
1/27/2012 1:00	0.65	1.60	718.1
1/27/2012 2:00	0.65	1.60	718.1
1/27/2012 3:00	0.65	1.60	718.1
1/27/2012 4:00	0.65	1.60	718.1
1/27/2012 5:00	0.65	1.60	718.1
1/27/2012 6:00	0.65	1.60	718.1
1/27/2012 7:00	0.65	1.60	718.1
1/27/2012 8:00	0.65	1.60	718.1
1/27/2012 9:00	0.65	1.60	718.1
1/27/2012 10:00	0.65	1.60	718.1
1/27/2012 11:00	0.65	1.60	718.1
1/27/2012 12:00	0.65	1.60	718.1
1/27/2012 13:00	0.65	1.60	718.1
1/27/2012 14:00	0.65	1.60	718.1
1/27/2012 15:00	0.65	1.60	718.1
1/27/2012 16:00	0.65	1.60	718.1
1/27/2012 17:00	0.65	1.60	718.1
1/27/2012 18:00	0.65	1.60	718.1
1/27/2012 19:00	0.65	1.60	718.1
1/27/2012 20:00	0.65	1.60	718.1
1/27/2012 21:00	0.65	1.60	718.1
1/27/2012 22:00	0.65	1.60	718.1
1/27/2012 23:00	0.65	1.60	718.1
1/28/2012 0:00	0.65	1.60	718.1
1/28/2012 1:00	0.65	1.60	718.1
1/28/2012 2:00	0.65	1.60	718.1
1/28/2012 3:00	0.65	1.60	718.1
1/28/2012 4:00	0.65	1.60	718.1
1/28/2012 5:00	0.65	1.60	718.1
1/28/2012 6:00	0.65	1.60	718.1
1/28/2012 7:00	0.65	1.60	718.1
1/28/2012 8:00	0.65	1.60	718.1
1/28/2012 9:00	0.65	1.60	718.1
1/28/2012 10:00	0.65	1.60	718.1
1/28/2012 11:00	0.65	1.60	718.1
1/28/2012 12:00	0.65	1.60	718.1
1/28/2012 13:00	0.65	1.60	718.1
1/28/2012 14:00	0.65	1.60	718.1
1/28/2012 15:00	0.65	1.60	718.1

1/28/2012 16:00	0.65	1.60	718.1
1/28/2012 17:00	0.65	1.60	718.1
1/28/2012 18:00	0.65	1.60	718.1
1/28/2012 19:00	0.65	1.60	718.1
1/28/2012 20:00	0.65	1.60	718.1
1/28/2012 21:00	0.65	1.60	718.1
1/28/2012 22:00	0.65	1.60	718.1
1/28/2012 23:00	0.65	1.60	718.1
1/29/2012 0:00	0.65	1.60	718.1
1/29/2012 1:00	0.65	1.60	718.1
1/29/2012 2:00	0.65	1.60	718.1
1/29/2012 3:00	0.65	1.60	718.1
1/29/2012 4:00	0.65	1.60	718.1
1/29/2012 5:00	0.65	1.60	718.1
1/29/2012 6:00	0.65	1.60	718.1
1/29/2012 7:00	0.65	1.60	718.1
1/29/2012 8:00	0.65	1.60	718.1
1/29/2012 9:00	0.65	1.60	718.1
1/29/2012 10:00	0.65	1.60	718.1
1/29/2012 11:00	0.65	1.60	718.1
1/29/2012 12:00	0.65	1.60	718.1
1/29/2012 13:00	0.65	1.60	718.1
1/29/2012 14:00	0.65	1.60	718.1
1/29/2012 15:00	0.65	1.60	718.1
1/29/2012 16:00	0.65	1.60	718.1
1/29/2012 17:00	0.65	1.60	718.1
1/29/2012 18:00	0.65	1.60	718.1
1/29/2012 19:00	0.65	1.60	718.1
1/29/2012 20:00	0.65	1.60	718.1
1/29/2012 21:00	0.65	1.60	718.1
1/29/2012 22:00	0.65	1.60	718.1
1/29/2012 23:00	0.65	1.60	718.1
1/30/2012 0:00	0.65	1.60	718.1
1/30/2012 1:00	0.65	1.60	718.1
1/30/2012 2:00	0.65	1.60	718.1
1/30/2012 3:00	0.65	1.60	718.1
1/30/2012 4:00	0.65	1.60	718.1
1/30/2012 5:00	0.65	1.60	718.1
1/30/2012 6:00	0.65	1.60	718.1
1/30/2012 7:00	0.65	1.60	718.1
1/30/2012 8:00	0.65	1.60	718.1
1/30/2012 9:00	0.65	1.60	718.1
1/30/2012 10:00	0.65	1.60	718.1
1/30/2012 11:00	0.65	1.60	718.1
1/30/2012 12:00	0.65	1.60	718.1
1/30/2012 13:00	0.65	1.60	718.1
1/30/2012 14:00	0.65	1.60	718.1

1/30/2012 15:00	0.65	1.60	718.1
1/30/2012 16:00	0.65	1.60	718.1
1/30/2012 17:00	0.65	1.60	718.1
1/30/2012 18:00	0.65	1.60	718.1
1/30/2012 19:00	0.65	1.60	718.1
1/30/2012 20:00	0.65	1.60	718.1
1/30/2012 21:00	0.65	1.60	718.1
1/30/2012 22:00	0.65	1.60	718.1
1/30/2012 23:00	0.65	1.60	718.1
1/31/2012 0:00	0.65	1.60	718.1
1/31/2012 1:00	0.65	1.60	718.1
1/31/2012 2:00	0.65	1.60	718.1
1/31/2012 3:00	0.65	1.60	718.1
1/31/2012 4:00	0.65	1.60	718.1
1/31/2012 5:00	0.65	1.60	718.1
1/31/2012 6:00	0.65	1.60	718.1
1/31/2012 7:00	0.65	1.60	718.1
1/31/2012 8:00	0.65	1.60	718.1
1/31/2012 9:00	0.65	1.60	718.1
1/31/2012 10:00	0.65	1.60	718.1
1/31/2012 11:00	0.65	1.60	718.1
1/31/2012 12:00	0.65	1.60	718.1
1/31/2012 13:00	0.65	1.60	718.1
1/31/2012 14:00	0.65	1.60	718.1
1/31/2012 15:00	0.65	1.60	718.1
1/31/2012 16:00	0.65	1.60	718.1
1/31/2012 17:00	0.65	1.60	718.1
1/31/2012 18:00	0.65	1.60	718.1
1/31/2012 19:00	0.65	1.60	718.1
1/31/2012 20:00	0.65	1.60	718.1
1/31/2012 21:00	0.65	1.60	718.1
1/31/2012 22:00	0.65	1.60	718.1
1/31/2012 23:00	0.65	1.60	718.1

Appendix J

South Flume Orpheus Mini Data with Flowrates

Date	Time	Depth from top of flume to water (ft)	Depth of Flume Total (ft)	Depth of Flow (ft)	Flowrate (cfs)	Flowrate (gpm)
1/1/2012	12:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/1/2012	1:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/1/2012	2:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/1/2012	3:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/1/2012	4:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/1/2012	5:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/1/2012	6:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/1/2012	7:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/1/2012	8:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/1/2012	9:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/1/2012	10:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/1/2012	11:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/1/2012	12:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/1/2012	1:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/1/2012	2:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/1/2012	3:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/1/2012	4:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/1/2012	5:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/1/2012	6:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/1/2012	7:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/1/2012	8:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/1/2012	9:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/1/2012	10:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/1/2012	11:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/2/2012	12:00:00 AM	1.81	2.5	0.69	1.75	785.9
1/2/2012	1:00:00 AM	1.81	2.5	0.69	1.75	785.9
1/2/2012	2:00:00 AM	1.81	2.5	0.69	1.75	785.9
1/2/2012	3:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/2/2012	4:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/2/2012	5:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/2/2012	6:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/2/2012	7:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/2/2012	8:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/2/2012	9:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/2/2012	10:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/2/2012	11:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/2/2012	12:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/2/2012	1:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/2/2012	2:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/2/2012	3:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/2/2012	4:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/2/2012	5:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/2/2012	6:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/2/2012	7:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/2/2012	8:00:00 PM	1.81	2.5	0.69	1.75	785.9

1/2/2012	9:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/2/2012	10:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/2/2012	11:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/3/2012	12:00:00 AM	1.81	2.5	0.69	1.75	785.9
1/3/2012	1:00:00 AM	1.81	2.5	0.69	1.75	785.9
1/3/2012	2:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/3/2012	3:00:00 AM	1.81	2.5	0.69	1.75	785.9
1/3/2012	4:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/3/2012	5:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/3/2012	6:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/3/2012	7:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/3/2012	8:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/3/2012	9:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/3/2012	10:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/3/2012	11:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/3/2012	12:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/3/2012	1:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/3/2012	2:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/3/2012	3:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/3/2012	4:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/3/2012	5:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/3/2012	6:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/3/2012	7:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/3/2012	8:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/3/2012	9:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/3/2012	10:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/3/2012	11:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/4/2012	12:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/4/2012	1:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/4/2012	2:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/4/2012	3:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/4/2012	4:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/4/2012	5:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/4/2012	6:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/4/2012	7:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/4/2012	8:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/4/2012	9:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/4/2012	10:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/4/2012	11:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/4/2012	12:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/4/2012	1:00:00 PM	1.85	2.5	0.65	1.60	718.1
1/4/2012	2:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/4/2012	3:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/4/2012	4:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/4/2012	5:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/4/2012	6:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/4/2012	7:00:00 PM	1.82	2.5	0.68	1.71	768.8

1/4/2012	8:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/4/2012	9:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/4/2012	10:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/4/2012	11:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/5/2012	12:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/5/2012	1:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/5/2012	2:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/5/2012	3:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/5/2012	4:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/5/2012	5:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/5/2012	6:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/5/2012	7:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/5/2012	8:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/5/2012	9:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/5/2012	10:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/5/2012	11:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/5/2012	12:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/5/2012	1:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/5/2012	2:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/5/2012	3:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/5/2012	4:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/5/2012	5:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/5/2012	6:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/5/2012	7:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/5/2012	8:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/5/2012	9:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/5/2012	10:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/5/2012	11:00:00 PM	1.81	2.5	0.69	1.75	785.9
1/6/2012	12:00:00 AM	1.81	2.5	0.69	1.75	785.9
1/6/2012	1:00:00 AM	1.81	2.5	0.69	1.75	785.9
1/6/2012	2:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/6/2012	3:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/6/2012	4:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/6/2012	5:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/6/2012	6:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/6/2012	7:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/6/2012	8:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/6/2012	9:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/6/2012	10:00:00 AM	1.82	2.5	0.68	1.71	768.8
1/6/2012	11:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/6/2012	12:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/6/2012	1:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/6/2012	2:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/6/2012	3:00:00 PM	1.85	2.5	0.65	1.60	718.1
1/6/2012	4:00:00 PM	1.88	2.5	0.62	1.49	668.7
1/6/2012	5:00:00 PM	1.88	2.5	0.62	1.49	668.7
1/6/2012	6:00:00 PM	1.9	2.5	0.60	1.42	636.4

1/6/2012	7:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/6/2012	8:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/6/2012	9:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/6/2012	10:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/6/2012	11:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/7/2012	12:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/7/2012	1:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/7/2012	2:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/7/2012	3:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/7/2012	4:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/7/2012	5:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/7/2012	6:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/7/2012	7:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/7/2012	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/7/2012	9:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/7/2012	10:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/7/2012	11:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/7/2012	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/7/2012	1:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/7/2012	2:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/7/2012	3:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/7/2012	4:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/7/2012	5:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/7/2012	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/7/2012	7:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/7/2012	8:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/7/2012	9:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/7/2012	10:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/7/2012	11:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/8/2012	12:00:00 AM	1.89	2.5	0.61	1.45	652.4
1/8/2012	1:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/8/2012	2:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/8/2012	3:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/8/2012	4:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/8/2012	5:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/8/2012	6:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/8/2012	7:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/8/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/8/2012	9:00:00 AM	2.01	2.5	0.49	1.04	468.6
1/8/2012	10:00:00 AM	2.05	2.5	0.45	0.92	412.1
1/8/2012	11:00:00 AM	2.09	2.5	0.41	0.80	358.0
1/8/2012	12:00:00 PM	2.1	2.5	0.40	0.77	344.9
1/8/2012	1:00:00 PM	2.08	2.5	0.42	0.83	371.3
1/8/2012	2:00:00 PM	1.99	2.5	0.51	1.11	497.8
1/8/2012	3:00:00 PM	1.86	2.5	0.64	1.56	701.5
1/8/2012	4:00:00 PM	1.78	2.5	0.72	1.87	838.1
1/8/2012	5:00:00 PM	1.75	2.5	0.75	1.99	891.5

1/8/2012	6:00:00 PM	1.75	2.5	0.75	1.99	891.5
1/8/2012	7:00:00 PM	1.76	2.5	0.74	1.95	873.6
1/8/2012	8:00:00 PM	1.79	2.5	0.71	1.83	820.6
1/8/2012	9:00:00 PM	1.82	2.5	0.68	1.71	768.8
1/8/2012	10:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/8/2012	11:00:00 PM	1.86	2.5	0.64	1.56	701.5
1/9/2012	12:00:00 AM	1.88	2.5	0.62	1.49	668.7
1/9/2012	1:00:00 AM	1.89	2.5	0.61	1.45	652.4
1/9/2012	2:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/9/2012	3:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/9/2012	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/9/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/9/2012	6:00:00 AM	2.01	2.5	0.49	1.04	468.6
1/9/2012	7:00:00 AM	2.05	2.5	0.45	0.92	412.1
1/9/2012	8:00:00 AM	2.03	2.5	0.47	0.98	440.0
1/9/2012	9:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/9/2012	10:00:00 AM	1.88	2.5	0.62	1.49	668.7
1/9/2012	11:00:00 AM	1.85	2.5	0.65	1.60	718.1
1/9/2012	12:00:00 PM	1.85	2.5	0.65	1.60	718.1
1/9/2012	1:00:00 PM	1.85	2.5	0.65	1.60	718.1
1/9/2012	2:00:00 PM	1.86	2.5	0.64	1.56	701.5
1/9/2012	3:00:00 PM	1.87	2.5	0.63	1.53	685.0
1/9/2012	4:00:00 PM	1.88	2.5	0.62	1.49	668.7
1/9/2012	5:00:00 PM	1.87	2.5	0.63	1.53	685.0
1/9/2012	6:00:00 PM	1.88	2.5	0.62	1.49	668.7
1/9/2012	7:00:00 PM	1.88	2.5	0.62	1.49	668.7
1/9/2012	8:00:00 PM	1.88	2.5	0.62	1.49	668.7
1/9/2012	9:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/9/2012	10:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/9/2012	11:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/10/2012	12:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/10/2012	1:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/10/2012	2:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/10/2012	3:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/10/2012	4:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/10/2012	5:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/10/2012	6:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/10/2012	7:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/10/2012	8:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/10/2012	9:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/10/2012	10:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/10/2012	11:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/10/2012	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/10/2012	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/10/2012	2:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/10/2012	3:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/10/2012	4:00:00 PM	1.91	2.5	0.59	1.38	620.4

1/10/2012	5:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/10/2012	6:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/10/2012	7:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/10/2012	8:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/10/2012	9:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/10/2012	10:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/10/2012	11:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/11/2012	12:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/11/2012	1:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/11/2012	2:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/11/2012	3:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/11/2012	4:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/11/2012	5:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/11/2012	6:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/11/2012	7:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/11/2012	8:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/11/2012	9:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/11/2012	10:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/11/2012	11:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/11/2012	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/11/2012	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/11/2012	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/11/2012	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/11/2012	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/11/2012	5:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/11/2012	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/11/2012	7:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/11/2012	8:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/11/2012	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/11/2012	10:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/11/2012	11:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/12/2012	12:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/12/2012	1:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/12/2012	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/12/2012	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/12/2012	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/12/2012	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/12/2012	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/12/2012	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/12/2012	8:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/12/2012	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/12/2012	10:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/12/2012	11:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/12/2012	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/12/2012	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/12/2012	2:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/12/2012	3:00:00 PM	1.92	2.5	0.58	1.35	604.6

1/12/2012	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/12/2012	5:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/12/2012	6:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/12/2012	7:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/12/2012	8:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/12/2012	9:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/12/2012	10:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/12/2012	11:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/13/2012	12:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/13/2012	1:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/13/2012	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/13/2012	3:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/13/2012	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/13/2012	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/13/2012	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/13/2012	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/13/2012	8:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/13/2012	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/13/2012	10:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/13/2012	11:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/13/2012	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/13/2012	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/13/2012	2:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/13/2012	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/13/2012	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/13/2012	5:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/13/2012	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/13/2012	7:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/13/2012	8:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/13/2012	9:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/13/2012	10:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/13/2012	11:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/14/2012	12:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	1:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	10:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	11:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/14/2012	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/14/2012	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/14/2012	2:00:00 PM	1.93	2.5	0.57	1.31	588.9

1/14/2012	3:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/14/2012	4:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/14/2012	5:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/14/2012	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/14/2012	7:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/14/2012	8:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/14/2012	9:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/14/2012	10:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/14/2012	11:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/15/2012	12:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/15/2012	1:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/15/2012	2:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/15/2012	3:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/15/2012	4:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/15/2012	5:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/15/2012	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/15/2012	7:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/15/2012	8:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/15/2012	9:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/15/2012	10:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/15/2012	11:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/15/2012	12:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/15/2012	1:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/15/2012	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/15/2012	3:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/15/2012	4:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/15/2012	5:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/15/2012	6:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/15/2012	7:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/15/2012	8:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/15/2012	9:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/15/2012	10:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/15/2012	11:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/16/2012	12:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/16/2012	1:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/16/2012	2:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/16/2012	3:00:00 AM	1.89	2.5	0.61	1.45	652.4
1/16/2012	4:00:00 AM	1.87	2.5	0.63	1.53	685.0
1/16/2012	5:00:00 AM	1.86	2.5	0.64	1.56	701.5
1/16/2012	6:00:00 AM	1.85	2.5	0.65	1.60	718.1
1/16/2012	7:00:00 AM	1.85	2.5	0.65	1.60	718.1
1/16/2012	8:00:00 AM	1.84	2.5	0.66	1.64	734.9
1/16/2012	9:00:00 AM	1.84	2.5	0.66	1.64	734.9
1/16/2012	10:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/16/2012	11:00:00 AM	1.83	2.5	0.67	1.68	751.8
1/16/2012	12:00:00 PM	1.83	2.5	0.67	1.68	751.8
1/16/2012	1:00:00 PM	1.83	2.5	0.67	1.68	751.8

1/16/2012	2:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/16/2012	3:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/16/2012	4:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/16/2012	5:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/16/2012	6:00:00 PM	1.85	2.5	0.65	1.60	718.1
1/16/2012	7:00:00 PM	1.85	2.5	0.65	1.60	718.1
1/16/2012	8:00:00 PM	1.85	2.5	0.65	1.60	718.1
1/16/2012	9:00:00 PM	1.86	2.5	0.64	1.56	701.5
1/16/2012	10:00:00 PM	1.86	2.5	0.64	1.56	701.5
1/16/2012	11:00:00 PM	1.87	2.5	0.63	1.53	685.0
1/17/2012	12:00:00 AM	1.87	2.5	0.63	1.53	685.0
1/17/2012	1:00:00 AM	1.88	2.5	0.62	1.49	668.7
1/17/2012	2:00:00 AM	1.88	2.5	0.62	1.49	668.7
1/17/2012	3:00:00 AM	1.88	2.5	0.62	1.49	668.7
1/17/2012	4:00:00 AM	1.89	2.5	0.61	1.45	652.4
1/17/2012	5:00:00 AM	1.89	2.5	0.61	1.45	652.4
1/17/2012	6:00:00 AM	1.89	2.5	0.61	1.45	652.4
1/17/2012	7:00:00 AM	1.89	2.5	0.61	1.45	652.4
1/17/2012	8:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/17/2012	9:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/17/2012	10:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/17/2012	11:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/17/2012	12:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/17/2012	1:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/17/2012	2:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/17/2012	3:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/17/2012	4:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/17/2012	5:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/17/2012	6:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/17/2012	7:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/17/2012	8:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/17/2012	9:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/17/2012	10:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/17/2012	11:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/18/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/18/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/18/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/18/2012	3:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/18/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/18/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/18/2012	6:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/18/2012	7:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/18/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/18/2012	9:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/18/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/18/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/18/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7

1/18/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/18/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/18/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/18/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/18/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/18/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/18/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/18/2012	8:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/18/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/18/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/18/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/19/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/19/2012	1:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/19/2012	2:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/19/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/19/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/19/2012	5:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/19/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/19/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/19/2012	8:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/19/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/19/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/19/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/19/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/19/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/19/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/19/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/19/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/19/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/19/2012	6:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/19/2012	7:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/19/2012	8:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/19/2012	9:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/19/2012	10:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/19/2012	11:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/20/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/20/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/20/2012	2:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/20/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/20/2012	4:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/20/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/20/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/20/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/20/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/20/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/20/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/20/2012	11:00:00 AM	1.95	2.5	0.55	1.24	558.0

1/20/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/20/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/20/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/20/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/20/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/20/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/20/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/20/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/20/2012	8:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/20/2012	9:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/20/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/20/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/21/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/21/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/21/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/21/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/21/2012	4:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/21/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/21/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/21/2012	7:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/21/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/21/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/21/2012	10:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/21/2012	11:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/21/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/21/2012	1:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/21/2012	2:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/21/2012	3:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/21/2012	4:00:00 PM	1.9	2.5	0.60	1.42	636.4
1/21/2012	5:00:00 PM	1.88	2.5	0.62	1.49	668.7
1/21/2012	6:00:00 PM	1.87	2.5	0.63	1.53	685.0
1/21/2012	7:00:00 PM	1.86	2.5	0.64	1.56	701.5
1/21/2012	8:00:00 PM	1.85	2.5	0.65	1.60	718.1
1/21/2012	9:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/21/2012	10:00:00 PM	1.85	2.5	0.65	1.60	718.1
1/21/2012	11:00:00 PM	1.84	2.5	0.66	1.64	734.9
1/22/2012	12:00:00 AM	1.85	2.5	0.65	1.60	718.1
1/22/2012	1:00:00 AM	1.86	2.5	0.64	1.56	701.5
1/22/2012	2:00:00 AM	1.86	2.5	0.64	1.56	701.5
1/22/2012	3:00:00 AM	1.86	2.5	0.64	1.56	701.5
1/22/2012	4:00:00 AM	1.86	2.5	0.64	1.56	701.5
1/22/2012	5:00:00 AM	1.86	2.5	0.64	1.56	701.5
1/22/2012	6:00:00 AM	1.87	2.5	0.63	1.53	685.0
1/22/2012	7:00:00 AM	1.89	2.5	0.61	1.45	652.4
1/22/2012	8:00:00 AM	1.88	2.5	0.62	1.49	668.7
1/22/2012	9:00:00 AM	1.9	2.5	0.60	1.42	636.4
1/22/2012	10:00:00 AM	1.9	2.5	0.60	1.42	636.4

1/22/2012	11:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/22/2012	12:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/22/2012	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/22/2012	2:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/22/2012	3:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/22/2012	4:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/22/2012	5:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/22/2012	6:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/22/2012	7:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/22/2012	8:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/22/2012	9:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/22/2012	10:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/22/2012	11:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/23/2012	12:00:00 AM	1.94	2.5	0.56	1.28	573.4
1/23/2012	1:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/23/2012	2:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/23/2012	3:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/23/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/23/2012	5:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/23/2012	6:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/23/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/23/2012	8:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/23/2012	9:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/23/2012	10:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/23/2012	11:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/23/2012	12:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/23/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/23/2012	2:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/23/2012	3:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/23/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/23/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/23/2012	6:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/23/2012	7:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/23/2012	8:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/23/2012	9:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/23/2012	10:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/23/2012	11:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/24/2012	12:00:00 AM	1.93	2.5	0.57	1.31	588.9
1/24/2012	1:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/24/2012	2:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/24/2012	3:00:00 AM	1.91	2.5	0.59	1.38	620.4
1/24/2012	4:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/24/2012	5:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/24/2012	6:00:00 AM	1.92	2.5	0.58	1.35	604.6
1/24/2012	7:00:00 AM	1.93	2.5	0.57	1.31	588.9
1/24/2012	8:00:00 AM	1.93	2.5	0.57	1.31	588.9
1/24/2012	9:00:00 AM	1.94	2.5	0.56	1.28	573.4

1/24/2012	10:00:00 AM	1.94	2.5	0.56	1.28	573.4
1/24/2012	11:00:00 AM	1.94	2.5	0.56	1.28	573.4
1/24/2012	12:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/24/2012	1:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/24/2012	2:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/24/2012	3:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/24/2012	4:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/24/2012	5:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/24/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/24/2012	7:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/24/2012	8:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/24/2012	9:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/24/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/24/2012	11:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/25/2012	12:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/25/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/25/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/25/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/25/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/25/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/25/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/25/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/25/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/25/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/25/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/25/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/25/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/25/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/25/2012	2:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/25/2012	3:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/25/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/25/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/25/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/25/2012	7:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/25/2012	8:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/25/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/25/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/25/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	12:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/26/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/26/2012	2:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/26/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/26/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/26/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/26/2012	6:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/26/2012	7:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/26/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7

1/26/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/26/2012	10:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/26/2012	11:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/26/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/26/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/27/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/27/2012	1:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/27/2012	2:00:00 AM	1.94	2.5	0.56	1.28	573.4
1/27/2012	3:00:00 AM	1.94	2.5	0.56	1.28	573.4
1/27/2012	4:00:00 AM	1.93	2.5	0.57	1.31	588.9
1/27/2012	5:00:00 AM	1.93	2.5	0.57	1.31	588.9
1/27/2012	6:00:00 AM	1.94	2.5	0.56	1.28	573.4
1/27/2012	7:00:00 AM	1.94	2.5	0.56	1.28	573.4
1/27/2012	8:00:00 AM	1.95	2.5	0.55	1.24	558.0
1/27/2012	9:00:00 AM	1.94	2.5	0.56	1.28	573.4
1/27/2012	10:00:00 AM	1.94	2.5	0.56	1.28	573.4
1/27/2012	11:00:00 AM	1.94	2.5	0.56	1.28	573.4
1/27/2012	12:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/27/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/27/2012	2:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/27/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/27/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/27/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/27/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/27/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/27/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/27/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/27/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/27/2012	11:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/28/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/28/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/28/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/28/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/28/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/28/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/28/2012	6:00:00 AM	1.99	2.5	0.51	1.11	497.8
1/28/2012	7:00:00 AM	2.03	2.5	0.47	0.98	440.0

1/28/2012	8:00:00 AM	2.05	2.5	0.45	0.92	412.1
1/28/2012	9:00:00 AM	2.09	2.5	0.41	0.80	358.0
1/28/2012	10:00:00 AM	2.12	2.5	0.38	0.71	319.2
1/28/2012	11:00:00 AM	2.13	2.5	0.37	0.68	306.6
1/28/2012	12:00:00 PM	2.05	2.5	0.45	0.92	412.1
1/28/2012	1:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/28/2012	2:00:00 PM	1.87	2.5	0.63	1.53	685.0
1/28/2012	3:00:00 PM	1.86	2.5	0.64	1.56	701.5
1/28/2012	4:00:00 PM	1.87	2.5	0.63	1.53	685.0
1/28/2012	5:00:00 PM	1.89	2.5	0.61	1.45	652.4
1/28/2012	6:00:00 PM	1.91	2.5	0.59	1.38	620.4
1/28/2012	7:00:00 PM	1.92	2.5	0.58	1.35	604.6
1/28/2012	8:00:00 PM	1.93	2.5	0.57	1.31	588.9
1/28/2012	9:00:00 PM	1.94	2.5	0.56	1.28	573.4
1/28/2012	10:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/28/2012	11:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/29/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	10:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/29/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/29/2012	1:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/29/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/29/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/29/2012	4:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/29/2012	5:00:00 PM	1.95	2.5	0.55	1.24	558.0
1/29/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/29/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/29/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/29/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/29/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/29/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/30/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/30/2012	1:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/30/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/30/2012	3:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/30/2012	4:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/30/2012	5:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/30/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7

1/30/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/30/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/30/2012	9:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/30/2012	10:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/30/2012	11:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/30/2012	12:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/30/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/30/2012	2:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/30/2012	3:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/30/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/30/2012	5:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/30/2012	6:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/30/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/30/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/30/2012	9:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/30/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/30/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/31/2012	12:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/31/2012	1:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/31/2012	2:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/31/2012	3:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/31/2012	4:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/31/2012	5:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/31/2012	6:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/31/2012	7:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/31/2012	8:00:00 AM	1.96	2.5	0.54	1.21	542.7
1/31/2012	9:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/31/2012	10:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/31/2012	11:00:00 AM	1.97	2.5	0.53	1.18	527.6
1/31/2012	12:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/31/2012	1:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/31/2012	2:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/31/2012	3:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/31/2012	4:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/31/2012	5:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/31/2012	6:00:00 PM	1.97	2.5	0.53	1.18	527.6
1/31/2012	7:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/31/2012	8:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/31/2012	9:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/31/2012	10:00:00 PM	1.96	2.5	0.54	1.21	542.7
1/31/2012	11:00:00 PM	1.96	2.5	0.54	1.21	542.7